



MEMORANDUM

DATE: November 1, 2017
TO: Park Commission
FROM: Pierce Macdonald-Powell, Senior Planner
SUBJECT: STAFF REPORT FOR proposed wireless communication facilities permit installation in Piedmont Park across from 314 Wildwood Avenue

AGENDA ITEM NUMBER 2

APPLICATION SUMMARY:

Wireless Communication Facilities Permit Applications and Variances #16-0385

Crown Castle NG West LLC / Beacon Development
358 Hillside Avenue and Sites Generally Surrounding Piedmont Park

Crown Castle NG West LLC and Beacon Development request Park Commission review and recommendation regarding the design and placement of a proposed wireless communication installation within Piedmont Park across from 314 Wildwood Avenue, identified as PHS09, within zone B.

The proposal would install one, three-sector directional canister Amphenol antenna, model CUUT070X12Fxyz0 (48 inches tall and 14.6 inches diameter), with maximum height of 29 feet 8.5 inches on a new decorative light standard in Piedmont Park near the Wildwood Avenue entrance. The antenna has 18 ports and a maximum input power of 6,600 watts. Applicants propose to conceal equipment in an underground vault, measuring 4 feet wide by 6 feet long and 4 feet deep, beneath the sidewalk on Wildwood Avenue. Inside the vault, there would be one Ericsson RRUS-11 B13, one RRUS32 B4/B66, a disconnect box for power, and a Dongan transformer box. No electrical meter is shown. Power would be connected in a conduit in a trench to the nearest existing utility pole. The proposed antenna capacity is 696 to 960 MHz and 1695 to 2700 MHz bandwidths. The proposed location is partially within the public right-of-way and partially within Piedmont Park, City property.

The site is part of a larger group of applications for a total of nine sites reviewed by the Planning Commission and City Council. The larger group of applications are wireless communication facilities permit applications and variance applications for a proposed Distributed Antenna System (DAS) intended to improve data coverage and capacity to the immediate area (within approximately 1/3 mile) of each installation. In the City of Piedmont, the City Council is the deciding body for the proposed applications.

CITY COUNCIL REVIEW:

On October 2, 2017, the City Council directed staff to present the plans for the proposed installation in Piedmont Park (PHS09) to the Park Commission for review and recommendation prior to City Council action on the application. The City Council indicated that there was merit in the proposed location and directed staff to work with the applicant to improve the design of the installation. The City Council staff report is available at City Hall and on-line at:

<http://www.ci.piedmont.ca.us/html/govern/staffreports/2017-10-02/crowncastle/crowncastle.pdf>

Public correspondence (as an attachment to the October 2, 2017 staff report) is at City Hall and:

[http://www.ci.piedmont.ca.us/html/govern/staffreports/2017-10-02/crowncastle/crowncastle-](http://www.ci.piedmont.ca.us/html/govern/staffreports/2017-10-02/crowncastle/crowncastle-attachments-A-H.pdf)

[attachments-A-H.pdf](http://www.ci.piedmont.ca.us/html/govern/staffreports/2017-10-02/crowncastle/crowncastle-attachments-A-H.pdf) and as an attachment to the October 16, 2017 City Council staff report at:

<http://www.ci.piedmont.ca.us/html/govern/staffreports/2017-10-16/crown-castle-applications.pdf>

Video of the meeting is available at City Hall and on-line at:

http://piedmont.granicus.com/MediaPlayer.php?view_id=3&clip_id=1668

PLANNING COMMISSION REVIEW:

On June 12, 2017, the Piedmont Planning Commission considered all nine of the proposed installations for the DAS at a duly noticed public hearing. The plans under review were those submitted on May 19, 2017 (“May 2017 Plans”). At the conclusion of the public hearing, the Planning Commission adopted motions recommending that City Council deny the wireless communication facilities (WCF) and variances presented at the meeting. The meetings minutes for June 12, 2017 are at City Hall and included on the City of Piedmont webpage at the following link:

http://www.ci.piedmont.ca.us/committees/planning_minutes/2017-06-12.pdf

As recorded in the meeting minutes and video of the meeting, the Commissioners raised issues and concerns with the previous May 2017 Plans for the site discussed in this report, and the Planning Commission made findings in the motions recommending denial. The concerns and findings are provided below:

Across from 314 Wildwood Avenue, PHS09 (May 2017 Plans)

The previous antenna design proposed for the site across from 314 Wildwood Avenue would have been a new 56-inch-tall antenna atop a new City standard “cobra head” street light in a new location. All of the street light locations were reviewed together by the Planning Commission on June 12, 2017. Concerns expressed during the public hearing included the following points of discussion by the Planning Commission regarding the site across from 314 Wildwood, as well as the other street light locations, shown in the May 2017 Plans:

- Commissioners indicated that they would prefer to see wireless communication facilities permits collocated with existing cellular installations or mounted to buildings (and questioned whether that option had even been considered).
- Commissioner Behrens noted that the proposed sites are in zone B, which is favorable.
- Commissioner Ramsey noted that, despite some confusion regarding design details, the street-light installations appear to better meet the code requirement for the concealment of equipment, since the cables can be placed inside the light pole. Concerns for the proposals remained, however.
- Commissioner Ode expressed concern for the applicant’s incomplete information, especially related to the emissions report. She also expressed concern for the safety hazards resulting from the closing of streets and sidewalks around the schools during

semimonthly maintenance.

- Commissioner Ramsey indicated that residents in Piedmont are kept to a much higher aesthetic standard than that shown in these proposals, and he expressed concern that the proposed street light installation at 340-370 Highland Avenue is in a highly visible and public location.
- Alternate Commissioner Thiel suggested that instead of bolting the meter and antenna to an existing light fixture, the applicant could incorporate the meter and antenna into an appealing, custom light standard, which would be more in keeping with Piedmont's design standards. He indicated that the City has required Piedmont residents to install custom light fixtures during undergrounding, and that Crown Castle should not be held to a lower standard.
- Commissioner Ramsey also made suggestions about alternative vault and vent locations.
- The Commissioners unanimously agreed that the proposed installation across from 314 Wildwood Avenue (site #9) is not appropriate, since the proposed street light would be an anomaly in a predominately residential location. Additionally, without a lighting survey stating otherwise, Commissioner Ode was concerned about the impact that the new unshielded light could have on adjacent properties.

The Planning Commission made the following findings in recommending denial of the application proposed for City street lights presented at the June 12, 2017 public hearing: Regarding the proposed wireless communication facility installations on City street lights (across from 314 Wildwood Avenue, across from 340-370 Highland Avenue, at 799 Magnolia Avenue, and at 358 Hillside Avenue), the Planning Commission made the findings that the installations, shown in the May 2017 Plans, did not comply with Division 17.46 of the Piedmont City Code:

1. The proposed design is not consistent with the Piedmont design guidelines because the antenna portion of the light standard is not concealed as much as possible, and is not as inconspicuous as possible. The light standards are not aesthetically pleasing or consistent with the infrastructure in the neighborhood. The installation is also not aesthetically pleasing regarding the locations proposed and the attachment and bolted-on appearance of the various components that the applicant proposes.

In addition the Planning Commission made the findings that the May 2017 Plans for a wireless communication facility installation across from 314 Wildwood Avenue did not comply further with Division 17.46 of the Piedmont City Code, for the following reasons:

1. The applicant has failed to provide evidence that the proposed facility is necessary to close a significant gap in the operator's service coverage or capacity.
2. The applicant has failed to evaluate and meet the priority for locations standards of Section 17.46.040 A, because there are potential alternative nearby locations within the public right-of-way that would not impose the potential for light pollution and incongruity with the remainder of the street on Wildwood Avenue, with regard to putting in a free-standing street light where none currently exists.
3. The proposed design is not consistent with the Piedmont Design Guidelines, because it is not concealed as much as possible, and is not as inconspicuous as possible.
4. The proposed facility has not been located and designed for collocation, and the applicant has failed to show that collocation is infeasible or inappropriate.
5. The applicant has failed to show a need to vary from Section 18.8 of the Street and Sidewalk Ordinance of the Piedmont City Code, regarding the erection of an electric light pole or any pole.

The applicant has modified the plans and the current project plans were filed with the City of

Piedmont on September 8, 2017 (referred herein as “September 2017 Plans”). The September 2017 Plans modified the location of the antenna installation from a previously proposed new cobrahead street light on the sidewalk to a new ornamental light within Piedmont Park. The applicant reduced the size of the antenna from 56 inches to 48 inches. In addition, the applicant modified the plans to move the previously proposed underground vault from the sidewalk to the left of the crosswalk to a new location beneath sidewalk to the right of the crosswalk.

REGULATORY BACKGROUND:

Wireless communication facilities are considered a public utility and are subject to the federal Telecommunications Act (1996) and the authority of the California Public Utilities Commission (CPUC). In general, wireless communication facilities within the public right-of-way may be allowed as a conditional use in all zoning districts within the City, including zone A and zone B, pursuant to divisions 17.20 to 17.28 of the Piedmont City Code. Wireless communication antennas and equipment on public land, in the public right-of-way, located on street lights, utility poles, and in underground vaults, are subject to the Piedmont Municipal Code Division 17.46 (Wireless Communication Facilities), Chapter 3 (Trees), Section 5.4.20 (Noise), and Chapter 18 (Streets and Sidewalks).

In addition to regulations under the Piedmont Municipal Code, federal and state regulations are applicable in the review of the wireless communication facilities permit applications filed by Crown Castle NG West LLC. The staff report for the Planning Commission meeting on June 12, 2017 provides an overview of the federal and state regulations, at City Hall and on-line at: <http://www.ci.piedmont.ca.us/publicworks/planning.shtml>

CODE COMPLIANCE:

The applicant proposes to install a new ornamental light fixture with double acorn luminaires on a decorative arm or bracket. Although the plans are not drawn to scale, the “profile” drawing specifies that the light fixture is 29 feet 8.5 inches tall and the proposed canister antenna is 48 inches tall. The new installation and light fixture would be located 10 feet from the edge of the sidewalk to the south and 10 feet from two trees to the east, within Piedmont Park and near the existing circular dry-stack stone seat bench that marks the Wildwood entrance to Piedmont Park.

Wireless communication facilities, located on lights and in underground vaults, are subject to the Piedmont Municipal Code. The sections of the Code related to parks and trees are provided below.

Chapter 3 Parks and Tree Ordinance

The Piedmont City Code Chapter 3 includes City regulations for the treatment of trees, including trees on public property. Section 3.14 of Article IV of Chapter 3, Trees, reads, “The vegetation on public property is owned by the City of Piedmont. No person other than a City employee or other contractual agent of the City may plant, prune, treat, or remove vegetation on public property. A property owner may request that the City plant, prune, treat or remove a tree in a parking strip or other City right-of-way as provided in this Article IV.

Chapter 25 Park Commission Responsibilities

Section 25.5 of the Piedmont City Code states, “The park commission shall have the following powers and duties: (a) To consider and make recommendations to the Council on matters affecting

the beautification, planting, litter control, development, uses, acquisition and disposal and maintenance of all parks, park improvements, park memorials, street trees, parking strips (i.e., the portion of the street right-of-way between the sidewalk and curb) and other planted areas owned or controlled by the City. In addition, (b) To consider and make recommendations to the Council concerning proposed solutions to those additional matters which appropriately may be referred to the commission by the Council; or which, relating to the beautification of the matters referred to in subsection (a) hereof, may be investigated by the commission on its own motion.”

Although the proposed installation would not be located within 25 feet of street trees, the installation would be within 10 feet of trees in Piedmont Park. On October 2, 2017, staff recommended that the applicant provide an arborist report for the two trees within the Park. The applicant has not provided an arborist report for the possible impacts to the trees within 10 feet of the proposed installation.

PARK COMMISSION ACTION:

Having found merit in the proposed location during their consideration of the September 2017 plans on October 2, 2017, the City Council directed staff to present the plans for the proposed installation in Piedmont Park (PHS09) to the Park Commission for review and recommendation prior to City Council action on the application. It is the responsibility of the Park Commission, pursuant to City Code section 25.5(a), to make a recommendation of approval or disapproval to the City Council regarding proposals that impact City-owned land in Piedmont Park and in the public right-of-way. Staff notes that while the original May 2017 Plans for a proposed wireless communication facility PHS09 was not reviewed by the Park Commission because there was no perceived impact to a street tree, the current September 2017 Plans require Park Commission review due to the installation’s proposed location in Piedmont Park.

Concerns expressed by the Planning Commission on June 12, 2017 for the location in the public right-of-way across from 314 Wildwood Avenue included a concern for light spillover onto adjacent properties. The current September 2017 Plans consist of two unshielded acorn lights in the same general location on Wildwood Avenue as the plans reviewed by the Planning Commission on June 12, 2017, except that the light pole is proposed to be located on City property at the entrance to Piedmont Park, rather than curbside. In addition, none of the existing lighting in City parks are like the double-headed acorn light fixture proposed by the applicant in the September 2017 Plans. Staff discussed these concerns with the applicant.

Furthermore, comments were raised about the concealment and camouflaging of the antennas. The plans for the proposed installation show a canister container or housing for the antenna equipment. Staff discussed with the applicant an alternative design of banners that could be added to the design to screen the sides of the proposed antenna. The antenna(s) and banner should be hung parallel to Wildwood Avenue. Staff recommended that the applicant provide both a photometric analysis and an arborist report for the proposed Park location. The applicant has not amended the applications and plans received September 8, 2017 to provide this additional information. Also, staff recommends that a smaller, 24-inch-tall antenna would be feasible so long as the center of the antenna remained at 27 feet 8.5 inches high. Measures to protect City landscaping and trees are included in draft conditions of approval proposed by staff, specifically #2 (Contract Engineer) and #21 (City Monitoring of City Trees), as well as conditions specific to this installation, below.

Should the Park Commission be able to make findings recommending approval of the proposed project based upon possible modifications or changes to the proposed design and/or location, then staff recommends that the Park Commission add to or modify the standard and site specific conditions of approval recommended by staff. These possible new or modified conditions of approval that specify the design revisions desired by the Commission may be voted upon by the Park Commission as part of a motion to recommend approval.

For example, if the Park Commission finds merit in the ornamental light fixture design, the Park Commission could recommend modifications to the design to incorporate the City's standard ornamental lamppost design, like the type available through Spring City Electrical Manufacturing Co. and used at the recently renovated landscaping for the Linda Kingston Triangle median.

If the Park Commission prefers a light with a sharp "cut-off angle," the Park Commission could recommend modifications to the design to incorporate the City's standard downward directed box light fixture like the type available through U.S. Architectural Lighting and used in the recently renovated Linda Beach School right-of-way improvements. The box light luminaire by U.S. Architectural Lighting could address concerns about light spillover expressed by neighboring residents.

In addition, if the Park Commission prefers a different location (within the general area of the proposed location of the antenna), then the Park Commission could recommend modifications to the site plan to adjust the location of the antenna and light pole.

In the judgement of staff, the alternative designs described above have advantages over the design for PHS09 proposed in the September 2017 Plans (Attachment G) in that the design would be more consistent with City requirements for concealment and camouflage. Advantages include a more human scale, better screening, and a proportional relationship of the light to the antenna. Staff has provided attachments showing the previous proposal (May 2017 Plans) as well as manufacturers' specifications for the lights described above (Attachment C).

In making its recommendation, the Park Commission shall make specific findings of fact for the proposed installation to support all of the following conclusions. Staff recommends that the Park Commission make the following findings **for the proposed installation (PHS09) within Piedmont Park and across from 314 Wildwood Avenue.**

Park Commission Findings:

- 1) As conditioned, the project within Piedmont Park and across from 314 Wildwood Avenue will (will not) have adverse impacts on the City-owned land and trees and is (is not) in conformance with the General Plan in that:
 - (As conditioned) The project maintains (does not maintain) the visual character and pedestrian safety and comfort in the sidewalks and planting strips as outlined in Design and Preservation Policy 27.2, because_____.
 - (As conditioned) The project applies (does not apply) consistent standards for pavement, signage, street furniture (benches, planters, trash receptacles, bus shelters, etc.), and other elements of public space to help unify the city and strengthen Piedmont's identity as outlined in Design and Preservation

Policy 27.10, because _____.

- (As conditioned) The project preserves (does not preserve) important historic landscape features, including parks, landscaped traffic islands, and neighborhood entry pillars dating back to Piedmont’s early subdivisions and ensure that new public works such as street lights, street furniture, and sidewalks are compatible with the historic context of Piedmont’s neighborhoods, as outlined in Design and Preservation Policy 31.6, because _____.

- (As conditioned) The project ensures (does not ensure) that the siting and design of infrastructure facilities, including water tanks and telecommunication towers, mitigates the potential for adverse visual impacts and is consistent with policies in the Design and Preservation Element, as outlined in Community Services and Facilities Policy 37.4, because _____.

CONDITIONS OF APPROVAL FOR CONSIDERATION:

Should the Commission wish to make the required findings to recommend approval of the Wireless Communication Facilities Permit application, then the Commission might consider the following conditions of approval for the project application:

1. **Conditions in construction documents.** These conditions of approval shall be included as a sheet in the plan set submitted for any building permit or encroachment permit for the work approved herein.
2. **Contract engineer.** Prior to issuance of an encroachment permit for proposed work in the public right-of-way, the applicant shall file a deposit of \$15,000 for each installation site to be used by the City to cover the costs associated with contract engineer to monitor construction and excavation within the right-of-way. The applicant is responsible for the full cost of the contract engineer, and any unexpended funds after the completion of the monitoring process will be promptly returned to the applicant.
3. **Patch and repair.** The applicant shall patch and repair City sidewalks and other improvements in the public right-of-way affected by applicant’s project construction, such as curbs or walls, to match the color, texture, materials, and scoring pattern of the existing improvements, including custom integral concrete color in accordance with City of Piedmont standard plans and as directed by the Director of Public Works. Directional bore shall be utilized over trenching at the reasonable discretion of the Public Works Director.
4. **Alternative vault design and location – underground utilities.** Prior to issuance of an encroachment permit, applicant or contractor shall provide detailed utility plans with existing utilities locations and shall pot-hole for utilities as required by the Director of Public Works. If an approved location is found to be unsuitable due to conflicts with underground utilities that cannot be relocated then the applicant shall relocate the flush-to-grade vault to: a) to another sidewalk or planting strip location subject to the approval of the Director of Public Works, or b) a location in the parking lane of the street immediately adjacent to the approved

location, subject to the approval of the Director of Public Works. Street-rated flush-to-grade vault and construction shall be used for all street locations subject to review and approval of the City Engineer. If the street location is also unsuitable due to conflicts with tree roots, utilities, or other physical condition(s), then the project shall be subject to new application(s) and fees and shall be scheduled for review by the Planning Commission and City Council.

5. **Contractor's general liability insurance.** To ensure that the contractor doing work in the City will be responsible for damages caused by the work to City property or to neighboring property, the applicant shall require all contractors performing work on the Project to maintain General Liability Insurance for protection from claims for damages because of bodily injury, including death, and claims for damages, other than to the contractor's work itself, to property which may arise out of or result from the contractor's operations. Such insurance shall be written for not less than \$1,000,000 per occurrence. The insurance shall include an endorsement requiring 10 days prior notice to the City if the insurance is to be cancelled or changed, and the applicant shall immediately arrange for substitute insurance coverage. If the contractor's insurance carrier states in writing that it is unable to provide the required endorsement, then the applicant shall be responsible for providing the City with the required notice if the insurance is to be cancelled or changed. The applicant's failure to provide such notice shall constitute grounds for revocation of the City's wireless communication facilities permit. If the applicant does not have a general contractor, the applicant shall maintain property insurance and coverage for contractors, which is substantially equivalent to the contractor's requirement of this section.
6. **Defense of Legal Challenges.** If there is a third party administrative, legal or equitable action challenging the project approvals, including without limitation to CEQA issues, the applicant, Crown Castle NG West LLC, shall defend, indemnify, and hold harmless the City against any and all liability, fees and costs arising out of the defense, including without limitation the costs of City's own selected legal counsel(s). If such an action is filed, the applicant, Crown Castle NG West LLC, and City shall then enter into an agreement regarding selection of counsel and other provisions related to the defense. For this purpose, "City" includes the City and its elected and appointed officials, agents, officers, employees, consultants, and volunteers.
7. **Noise study and field testing of equipment noise.** The applicant, Crown Castle NG West LLC, shall submit a study prepared by a licensed acoustical engineer for the specific equipment to be installed including manufacturers' specifications and field tested noise levels prior to issuance of an encroachment or building permit for the approved scope of work. Said study shall demonstrate that the equipment shall meet the limits provided in City Code Section 5.4.11 for mechanically-generated noise sources when the facility is under maximum operational capacity. Furthermore, prior to the scheduling of final inspection and the commencement of facility operation, the applicant shall provide an acoustical report by a licensed acoustical engineer which demonstrates that tested noise levels are 50 dBA or less at the nearest property line while the facility is at maximum operational capacity, including, but not limited to the fans, radio units

and sump pumps. The facility may not begin operating until such time that the requisite analysis demonstrates that the mechanically-generated noise meets the requirements of Section 5.4.11. These requirements shall also apply to this facility at future times when machinery in the vault is added or replaced.

- a. **Peer Review.** At the Applicant's sole expense, the City shall have the option to retain an independent acoustical consultant to perform a peer-review of the Applicant's acoustical report(s) and advise the City in connection with the facility's mechanically-generated noise. The City Engineer shall select this independent acoustical consultant, whose services shall be provided for the sole benefit of the City and whose reports and recommendations can be relied upon only by the City. The independent acoustical consultant shall also review the construction plans during the permit approval process, and may provide periodic on-site observations during excavation and construction of the vault as deemed necessary by the City Engineer. The Applicant shall provide payment for this service at the time of the Building or Encroachment Permit submittal.
8. **Radio frequency emissions testing.** Prior to issuance of an encroachment permit, the applicant shall provide a revised radio frequency emissions exposure report which demonstrates the project's compliance with applicable FCC health safety standards. Prior to completion of the project and the release of any bond or deposit, the applicant shall provide to the Planning Department the results of radio frequency and electromagnetic emissions testing conducted at each of the sites and prepared by a qualified electrical engineer following the methodology established by the FCC in Office of Engineering and Technology Bulletin 65 or any successor thereto. Should results of the testing reveal inconsistencies with the application and the provided radio frequency emissions exposure report, then the applicant shall alter the design of the antenna and communication equipment to bring the project's radio frequency and electromagnetic emissions levels to those specified in the application and reports, with the altered design receiving verification of compliance through further field tests. Should the applicant, Crown Castle NG West LLC, or owner of the WCF equipment be unable to comply with this condition of approval, the facility must be disconnected from all electrical power sources until the applicant is able to demonstrate to the City its compliance with the applicable FCC rules. The radio frequency and electromagnetic field emissions exposure report shall be peer reviewed by the City's selected and qualified reviewer at the expense of the applicant, Crown Castle NG West LLC, or owner of the WCF equipment. The radio frequency emissions exposure report shall be conducted on an annual basis within 30 days of each anniversary of the approval of this Resolution, and each study shall be coordinated in advance with the Director of Planning.
9. **Future modifications.** Future modifications of the approved installation that extend beyond the approved project site, increase excavation beyond the approved project site, or that remove or subvert the concealment design of the approved antennas and equipment, including the flush-to-grade vault, the body of the streetlight post, the perimeter of the canister concealing the antenna(s), shall constitute a new application and shall require new application forms and fees. Applications that extend beyond the approved project site, increase excavation

beyond the approved project site, or that remove or subvert the concealment design of the approved antennas and equipment, or any other request to modify the installation that does not qualify for treatment as an eligible facilities request under Section 6409(a) shall not be eligible for Planning Director review under 47 U.S.C. §1455(a) processing.

10. **Construction Management Plan.** The applicant or contractor shall develop a comprehensive Construction Management Plan. The Construction Management Plan shall address noise, vibrations, traffic control, parking, debris removal, dust control, sanitary facilities, site safety security and other potential construction impacts, as well as other details involving the means and methods of completing the Project, including the construction route and the days and hours permitted for heavy excavation. Outside construction involving high levels of noise, including excavation, hammering, and pile driving, shall be limited to Monday through Saturday, from 8:30 a.m. to 4:30 p.m. Construction personnel shall be instructed not to park in front of driveways to private residences. The plan shall specify the sequencing of pruning, demolition, and construction activities. The City Building Official may require modifications and amendments to the Construction Management Plan throughout the course of the Project and until the Final Inspection is approved by the City.
 - a. **Construction Site Control of Stormwater.** The California Regional Water Quality Control Board requires all projects that disturb the site to comply with Provision C.6 of the San Francisco Bay Regional Stormwater NPDES Permit in order to prevent construction site discharges of pollutants and other regulated materials during construction. Prior to the issuance of a building permit, the Applicant shall submit a construction stormwater management plan prepared by a licensed Civil Engineer to achieve timely and effective compliance with Provision C.6. Permit Provision C.6.c.ii provides sources for site specific, and seasonally- and phase-appropriate, effective Best Management Practices (BMPs) that must be incorporated into the stormwater management plan. Copies of the Municipal Regional Stormwater Permit are available from the Piedmont Public Works Department and on-line at cleanwaterprogram.org.
 - b. **Continual Street Access for Emergency Vehicles.** The Construction Management Plan shall specifically address methods of providing continual street access for emergency vehicles at all times by means of a traffic control permit application submitted by the applicant and reviewed and approved by the Public Works Director.
 - c. **Haul routes.** All equipment and vehicle haul routes shall be provided to the City for review and approval. To the extent possible, haul routes shall attempt to minimize or eliminate use of minor residential roadways. Street and pavement conditions shall be observed and documented by the City on all haul routes prior to commencement of construction. Damage or observable and unusual wear and tear to haul routes on city roadways as specified by the City shall be repaired at the Property Owner's expense after Final Inspection.
11. **Maintenance of Facilities.** Maintenance of the communication equipment shall be conducted pursuant to an encroachment permit, the term of which is the same

as that for the facility's lease term. The encroachment permit is subject to the review and approval of the Public Works Director. Except for emergency maintenance needs, the maintenance of the wireless communication facilities shall not occur from 7:30 a.m. to 9:30 a.m. or from 2:30 p.m. to 4:00 p.m. during regular school days of any public schools located in any direction within one-quarter mile of the wireless facility. The prohibited hours for regular maintenance may be adjusted by the Director of Planning upon at least 30 days written notice to the applicant to accommodate changes in the hours of instruction at the nearby public schools.

12. **Site Safety Security.** The City and the public have an interest in not having an unfinished project blighting the neighborhood, restricting access, and undermining property values. These public interests are primarily safety and aesthetics, and diminishment of property values. Prior to the issuance of an encroachment permit for the approved project, Crown Castle NG West LLC shall provide to the City a specific cash deposit, letter of credit, bank guarantee, or other similar financial vehicle ("Site Safety Security") in the amount of \$100,000 for each site to ensure the Project site is not left in a dangerous or unfinished state, and if any funds are remaining, to complete repairs in the public right-of-way. City shall release such security to Crown Castle NG West LLC at the time it completes the final inspection and certification of compliance with all conditions of approval.
- a. The Site Safety Security shall be in an amount to include three components:
 - i. safety, which means the cost to make the site and structure safe and accessible if construction should cease mid-way through the Project;
 - ii. aesthetics, which means an amount to install and maintain hardscape paving and landscaping all around the Project; and
 - iii. staff and consultant time to evaluate and implement this condition.
 - b. If, as the Project proceeds, the expected cost of these components increases beyond the original estimate in the opinion of the Director of Public Works, the City may require Crown Castle NG West LLC to increase the amount of the Site Safety Security by the additional amount. Crown Castle NG West LLC shall provide City with written evidence of compliance within 15 working days after receiving written notice of the additional required amount. The City shall retain, at Crown Castle NG West LLC's expense, an independent estimator selected by the City after consulting with Crown Castle to verify the total expected costs to complete the Project and any subsequent revisions.
 - c. The form and amount of the Site Safety Security is subject to the reasonable approval of the Director of Public Works. Payment to City under the Site Safety Security shall be made payable upon demand by the City and prior to the issuance of the Building Permit, conditioned solely on the Director of Public Works' certification on information and belief that all or any specified part of such Performance Security is due to the City.
 - d. The Site Safety Security shall not be released until the Project has an approved Final Inspection by the Building Official. However, if sufficient work has

been completed according to the benchmarks and construction values as established under the Construction Completion Schedule, the Site Safety Security may be reduced to the extent the Director of Public Works in his reasonable discretion determines is appropriate.

13. **City Facilities Security.** The applicant (“Crown Castle NG West LLC) shall provide a specific cash deposit, letter of credit, bank guarantee, or other similar financial vehicle (“City Facilities Security”) in the amount of \$100,000 per site as established by the Director of Public Works. This financial vehicle serves as an initial sum to cover the cost of any potential damage to City property or facilities in any way caused by Crown Castle NG West LLC’s contractors or subcontractors, or any of their agents, employees or assigns, and related in any way to the Project. The Crown Castle NG West LLC is responsible for the full cost of repair as determined by the City Engineer prior to final inspections. The form and terms of such City Facilities Security shall be determined by the Director of Public Works after consultation with the Property Owner. The Director may take into account any of the following factors: the cost of construction; past experience and costs; the amount of excavation; the number of truck trips; the physical size of the proposed project; the logistics of construction; the geotechnical circumstances at the site; and City right-of-way and repaving costs.
 - a. To provide clear baseline information to assist in determining whether damage to the City’s facilities has been caused by Crown Castle NG West LLC or others working for or on behalf of Crown Castle NG West LLC, the City will document such facilities (including, without limitation, streets and facilities along the approved construction route as specified in the Construction Management Plan, to establish the baseline condition of the streets and facilities. The City shall further re-document the streets as deemed appropriate after the Project commences until the Director of Public Works determines that further documentation is no longer warranted. As part of the documentation, the City may water down the streets to better emphasize any cracks or damage in the street surface. Crown Castle NG West LLC is responsible for the full cost of the documentation and repair work as determined by the City Engineer, and shall reimburse the City for those costs prior to the scheduling of final inspection.
 - b. When the City Facilities Security is in a form other than cash deposit with the City, the proceeds from the City Facilities Security shall be made payable to the City upon demand, conditioned solely on the Director of Public Works’ certification on information and belief that all or any specified part of the proceeds are due to the City.
14. **Neighboring Property Damage Security.** The Applicant shall provide adequate and appropriate Insurance or bonds, as approved by the Director of Public Works and City Attorney against damage to neighboring properties by any construction, excavation, and related work in any way involving the project, such insurance or bonds to be in the amount of \$1,000,000.00 for each installation site and with any standard and/or special conditions established by the Director of Public Works after consultation with the Applicant (Crown Castle NG West LLC). If the Director of Public Works determines that obtaining any particular insurance

would be extremely difficult for Applicant due to its lack of availability even at an increased cost, the Director of Public Works may authorize an alternative method of providing equal protection to neighboring properties, including but not limited to partial coverage by Umbrella Insurance if that appears appropriate. Such insurance or any alternative method shall allow for claims to be made for up to one year after the final inspection of the Applicant's project. Any and all such insurance or any alternative method shall specifically indicate that it covers damages to neighboring private properties, and if such insurance is meant to also cover other potential damages, such as personal injuries or damages to other than the above named properties, any such further coverage shall be in addition to the \$1,000,000 earmarked for neighboring properties.

15. **Height Verification.** Prior to completion of the project and release of any bonds or security deposits, the applicant shall provide the Building Official written verification by a licensed land surveyor stating that the height of the new wireless communication equipment mounted on the streetlight is less than or equal to 35 feet in height measured from grade adjacent to the streetlight. If the height exceeds 35-foot height limit, then the applicant or contractor shall immediately reduce the height of the equipment until it is in compliance with the maximum height requirement.
16. **Antenna Design, Project Site, and Concealment Design.** The antenna(s) and canister used at this facility shall have a maximum length of 24 inches and banners shall be shown on plans submitted for building permit and encroachment permit. Banners shall be placed parallel to Wildwood Avenue along the wider side of each antenna (if panel antennas are used). The final design of the light post, lamp, luminaire, banners, and decorative arm or bracket for the banners shall be subject to City staff review and approval. Each antenna canister, banner, and equipment vault shall be identified as the "concealment design" for each installation and shall be labeled as such on the plans. The outer edge of the equipment as shown in elevation and in 'plan view' shall be identified as the "project site" and shall be labeled as such on the plans.
17. **Flush-to-Grade Vault Design.** Prior to issuance of an encroachment permit, the applicant or contractor shall provide fully dimensioned plans and specifications drawn to scale set by the City Engineer for the flush-to-grade vault and venting, including manufacturer's specifications for the vault cover, the non-slip cover surface material and color, vault materials, and reveal at the sidewalk. Said plans and specifications are subject to review and approval of the City Engineer.
18. **Decommissioning Plan.** The approval of the wireless communication facilities permit is valid for a term of 10 years, except as otherwise required by state or federal law or due to public safety or substantial land use reasons provided under California Government Code section 65964(b). Obsolete, decommissioned, and unlesed equipment or accessories shall be removed with each modification of the installation or annually whichever comes first. All modifications shall incorporate the highest industry standards for compact designs that minimize visibility and that comply with the concealment strategies provided in Condition of Approval #16.

19. **Cables and Cabling.** To the best extent possible, the cables to the antenna(s) atop the streetlight shall be enclosed within the streetlight post and shroud. No more than 5 inches of exposed cables, cabling or wire(s) shall be evident on plans filed for building permit or evident on the wireless installation after completion of construction. If required by the Building Official, the applicant at its sole cost and expense shall install a full-scale mock-up of the installation at the City's corporation yard prior to issuance of a building permit and remove the same upon ten-day written notice from the City Engineer.
20. **Lease Requirement.** This installation in Piedmont Park shall be subject to the terms and conditions of a lease approved by the City Council prior to issuance of a building permit or encroachment permit for the approved scope of work.
21. **City Monitoring of City Trees.** The applicant and its contractors are prohibited from performing any tree pruning related to construction, pre-construction clearance, or on-going maintenance and operation after construction. Tree trimming is restricted and may only occur with the approval of the Director of Public Works. No tree trimming will be permitted if it is to maintain or enhance the wireless transmissions from the facility. The pruning of trees in the public right-of-way or on City-owned property is the exclusive responsibility of the Piedmont Department of Public Works, or its designee.
22. **Operation and Maintenance Standards.** The facility shall comply with the provisions of City Code Section 17.46.070.B, as follows:
 - a. Contact and site information. The owner or operator of a wireless communication facility must submit basic contact and site information to the city, and notify the city within 30 days of any changes to this information, including the transfer of ownership. The contact and site information must include: (i) the name, address, email address, telephone number, and legal status of the owner of the facility, including official identification number and FCC certification, and, if different from the owner, the identity and legal status of the person or entity responsible for operating and maintaining the facility; and (ii) the name, address, email address, and telephone number of a local contact person for emergencies.
 - b. Signage. The owner and/or operator must post an identification sign at each facility, including owner/operator emergency telephone numbers. The design, materials, colors, and location of the identification signs shall be subject to review and approval by the Director. If at any time a new owner or operator provider takes over operation of an existing personal wireless service facility, the new personal wireless service provider shall notify the Director of the change in operation within 30 days and the required and approved signs shall be updated within 30 days to reflect the name and phone number of the new wireless service provider. The colors, materials and design of the updated signs shall match those of the required and approved signs. No sign shall be greater than two square feet in size unless required by law. The facility shall not bear signs other than certification, warning, emergency contacts, or other signage required by law or expressly required by the City.
 - c. Non-Interference. Each wireless communication facility must at all times comply with laws, codes, and regulations, and avoid interfering with any city

- property, facilities, operations, utilities, or equipment.
- d. Facility maintenance. Each wireless communication facility must at all times be maintained in good repair, free from trash, debris, litter, graffiti, and other forms of vandalism. The operator must repair any damage as soon as reasonably possible, but no later than the earlier of 10 days from the time of itself becoming aware of the non-compliance or the receipt of written notification from the City.
 - e. Landscaping. Landscaping elements at a wireless communication facility site must be maintained in good condition, and in compliance with the approved landscape plan. The owner or operator is responsible for replacing any damaged, dead, or decayed landscape materials and making necessary irrigation and equipment repairs as soon as reasonably possible.
 - f. Noise. A wireless communication facility must be operated to comply with Chapter 5 of the City Code
 - g. Removal. All wireless communication facility equipment must be removed within 30 days of the discontinuation of the use, and the site and other property restored to its original, preconstruction condition. In addition, the service provider must provide the city with a notice of intent to vacate a site a minimum of 30 days before the vacation. For a wireless communication facility to be located on public property, this removal requirement will be included within the lease. For a facility to be located on private property, the property owner will jointly and severally be responsible for removal and restoration.
23. **Required Corrections**. Prior to issuance of an encroachment permit or building permit for the approved scope of work, as modified herein, the applicant shall provide a construction drawing site plan detail drawn to scale that verifies that the proposed antenna and all related cabling and equipment meet the 18-inch setback to the front of curb in plan view. The applicant shall provide an “elevation” drawing. The applicant shall reference a fixed point in the plans for the terms, such as “12 O’clock View,” to the satisfaction of the Building Official. Plans shall show all improvements within a radius and scale which must be provided in the construction drawings.
 24. **Modifications to Public Facilities**. Should the public facilities in the area of this facility be removed, replaced or modified, the wireless communication facility equipment shall be removed or relocated at the applicant’s expense subject to review and approval of the Director of Public Works.
 25. **Expiration of Wireless Communication Facilities Permit**. An encroachment permit and building permit must be issued within one year of the approval of the City Council, and construction completed within two years of the approval of the City Council, or this approval shall be null and void.
 26. **Tree Protection Measures**. Prior to issuance of Building Permit or Encroachment Permit, the applicant shall provide tree protection measures prepared by a licensed and certified arborist for all work within the dripline of City owned trees. The arborist report shall be subject to the review and approval of the City of Piedmont Parks and Project Manager.

27. **Photometric Analysis.** Prior to issuance of a Building Permit or Encroachment Permit, the applicant shall provide a photometric analysis showing that light does not extend beyond the boundaries of City-owned land in Piedmont Park. The photometric analysis shall be subject to the review and approval of the City of Piedmont Parks and Project Manager.

CITY COUNCIL ACTION REQUIRED:

The City Council has the final deciding authority for the proposed wireless communication facilities permit application and future site agreement. The Park Commission shall make a recommendation to the City Council regarding the proposed application's potential impacts to public land including City trees. The City Council shall take the Park Commission's and Planning Commission's recommendations under consideration, pursuant to section 17.46.080 of the City of Piedmont Municipal Code. The City Council's decision is final.

Attachments:

Attachment A	Pages 17 - 21	Project Details Summary Chart
Attachment B	Pages 23 - 50	Project Application and Reports
Attachment C	Pages 51 - 55	<ul style="list-style-type: none"> a. Spring City Electrical Manufacturing Co. Design b. U.S. Architectural Lighting Design c. Cobrahead Light Design from May 2017 Plans d.
Attachment D	Pages 56 - 62	Hortscience Arborist Report and Peer Review
Attachment E	Page 64	General Plan Policies for Parks
Attachment F	Pages 65 - 68	<p>Public Comment, received between October 19, 2017 and by 5:00 pm October 25, 2017 (All public comment received is available at City Hall and on the City website at: http://www.ci.piedmont.ca.us/html/govern/staffreports/2017-10-30/crown-castle-applications.pdf and at: http://www.ci.piedmont.ca.us/html/govern/staffreports/2017-10-02/crowncastle/crowncastle-attachments-A-H.pdf)</p>
Attachment G	Separate document	Project Plans and Specifications

Site Number	Location/Zone	Cross Street	Type	(E) Height/ Light	(P) Height/ Light	Project Description
Revised PHS01 9/8/2017	Across from 340-370 Highland Ave Zone B	Magnolia Ave	(E) light pole #496 20" foc	31 feet 8 inches Light at 31 feet 9 inches	35 feet 1 inch Light at 31 feet 10 inches	<p>Proposal would install one pseudo omni-directional canister/cylinder Amphenol antenna on existing streetlight #496 with a maximum height of 35 feet 1 inch.</p> <p>Applicants propose to install a single Amphenol antenna (model CUUT360X12Fxyz0) which is 48 inches tall and 14.6 inches diameter. The proposed antenna has six ports and can receive a maximum of 2,200 watts of input power.</p> <p>Applicants propose an underground vault for equipment related to the antenna. In the vault there would be one RRUS-11 B13, one RRUS32 B4/B66, a disconnect box for power, and a Dongan box (transformer). No electrical meter is shown. Antenna capacity is 696 to 960 MHz and 1695 to 2700 MHz bandwidths. No other vault equipment is shown in the underground vault.</p>
Previous PHS01 5/19/2017	Across from 340-370 Highland Ave Zone B	Magnolia Ave	(E) light pole	31 feet 8 inches Light at 31 feet 8 inches	35 feet 2 inches Light at 31 feet 10 inches	<p>Proposed application would install extension and three antennas to an existing City street light in the same location with maximum height of 35 feet 2 inches.</p> <p>Applicants propose to install three Commscope antennas, model Andrew SBNHH-1D65A (56 inches tall and 12 inches wide). Each antenna has six ports and can receive 350 watts of input power per each port (total maximum input power of 2,100 watts, each antenna).</p> <p>Applicants propose an underground vault for equipment related to antennas. In the vault would be one remote radio (model RRUS-12 B4) and one remote radio (model RRUS-12 B13). Both radios have maximum output power of 2 x 60W (subject to license handling). Each radio can provide service to one to eight wireless service carriers (subject to license handling). Proposed remote radios provide broad frequency capacity and include the following bandwidth ranges: 746 to 756 MHz downlink; 777 to 7787 MHz uplink; 2,110 to 2,155 MHz downlink; 1,710 to 1755 MHz uplink; B13 LTE; and B4 for WCDMA and LTE. Other vault equipment includes a sump pump, two exhaust fans, and a disconnect box.</p>
Revised PHS02 9/8/2017	150 Highland Avenue Zone A	Blair Avenue	(E) light polet #1282 18" foc	32 feet 8 inches Light at 32 feet 8 inches	33 feet 10 inches Light at 32 feet 8 inches	<p>Proposed application would install one pseudo omni-directional canister/cylinder Amphenol antenna on existing street light #1282 with a maximum height of 33 feet and 10 inches.</p> <p>Applicants propose to install a single Amphenol antenna, model CUUT360X06Fxyz0 (24 inches tall and 14.6 inches diameter). The proposed antenna has six ports and can receive 2,200 watts of input power (2 x 500 watts in the low band and 4 x 300 watts in the high band frequencies).</p> <p>Applicants propose to conceal equipment related to the antenna in a cabinet on the sidewalk that is designed to look like a post office mailbox. In the mailbox-shaped cabinet, there would be one Ericsson RRUS-11 B13, one RRUS32 B4/B66, a disconnect box for power, and a Dongan box (transformer). No electrical meter is shown. Antenna capacity is 696 to 960 MHz and 1695 to 2700 MHz bandwidths. No other equipment is shown.</p>
Previous PHS02 5/19/2017	505 Blair Ave Zone A	Highland Ave	(E) utility pole with new 7- foot "bayonet" extension	34 feet No light	45 feet 8 inches No light	<p>Proposed applications would install three antennas on a 7-foot-tall bayonet extension with a maximum height of 45 feet 8 inches to an existing utility pole in the same location.</p> <p>Applicants propose to install three Commscope antennas, model Andrew SBNHH-1D65A (56 inches tall and 12 inches wide). Each antenna has six ports and can receive 350 watts of input power per each port (total maximum input power of 2,100 watts, each antenna).</p> <p>Applicants propose an underground vault for equipment related to antennas. In the vault would be one remote radio (model RRUS-12B4) and one remote radio (model RRUS-12 B13). Both radios have maximum output power of 2 x 60W (subject to license handling). Each radio can provide service to one to eight wireless service carriers (subject to license handling). Proposed remote radios provide broad frequency capacity and include the following bandwidth ranges: 746 to 756 MHz downlink; 777 to 7787 MHz uplink; 2,110 to 2,155 MHz downlink; 1,710 to 1755 MHz uplink; B13 LTE; and B4 for WCDMA and LTE. Other vault equipment includes a sump pump, two exhaust fans, and a disconnect box.</p>

Site Number	Location/Zone	Cross Street	Type	(E) Height/ Light	(P) Height/ Light	Project Description
Revised PHS03 9/8/2017	799 Magnolia Ave Zone B	Bonita Ave	(N) light pole to replace existing 21" foc	Light at 31 feet 7 inches	34 feet 7 inches Light at 31 feet 10 inches	Proposed application would install one three-sector directional canister/cylinder Amphenol antenna with a maximum height of 34 feet 7 inches on a new street light to replace an existing street light in the same location. Applicants propose to install one Amphenol antenna, model CUUT070X12Fxyz0 (48 inches tall and 14.6 inches diameter). The antenna has 18 ports and can receive a maximum input power of 6,600 watts (6 x 500 watts in the low band and 12 x 300 watts in the high band frequencies). Applicants propose to conceal equipment related to the antenna in a cabinet on the sidewalk that is designed to look like a USPS mailbox. In the mailbox-shaped cabinet, there would be one Ericsson RRUS-11 B13, one RRUS32 B4/B66, a disconnect box for power, and a Dongan box (transformer). No electrical meter is shown. Antenna capacity is 696 to 960 MHz and 1695 to 2700 MHz bandwidths. No other equipment is shown.
Previous PHS03 5/19/2017	799 Magnolia Ave Zone B	Bonita Ave	(N) light pole to replace existing	Light at 31 feet 7 inches	34 feet and 8 inches Light at 31 feet and 10 inches	Proposed application would install two new antennas with maximum height of 34 feet 8 inches on a new street light to replace existing street light in the same location. Applicants propose to install two Commscope antennas, model Andrew SBNHH-1D65A (56 inches tall and 12 inches wide). Each antenna has six ports and can receive 350 watts of input power per each port (total maximum input power of 2,100 watts, each antenna). Applicants propose an underground vault for equipment related to antennas. In the vault would be one remote radio (model RRUS-12B4) and one remote radio (model RRUS-12 B13). Both radios have maximum output power of 2 x 60W (subject to license handling). Each radio can provide service to one to eight wireless service carriers (subject to license handling). Proposed remote radios provide broad frequency capacity and include the following bandwidth ranges: 746 to 756 MHz downlink; 777 to 7787 MHz uplink; 2,110 to 2,155 MHz downlink; 1,710 to 1755 MHz uplink; B13 LTE; and B4 for WCDMA and LTE. Other vault equipment includes a sump pump, two exhaust fans, and a disconnect box.
Revised PHS04 9/8/2017	Across from 740 Magnolia Ave Zone B	Hillside Ave	(N) 5-foot-tall bayonet extension to existing utility pole #110118157 18" foc	29 feet No street light	38 feet 9 inches No street light	Proposed application would install one three-sector directional canister/cylinder Amphenol antenna with maximum height of 38 feet 9 inches on a new 5-foot-tall extension to an existing utility pole (#110118157) in the same location. Applicants propose to install one Amphenol antenna, model CUUT070X12Fxyz0 (48 inches tall and 14.6 inches diameter). The antenna has 18 ports and can receive a maximum input power of 6,600 watts (6 x 500 watts in the low band and 12 x 300 watts in the high band frequencies). Applicants propose to conceal equipment related to the antenna in a cabinet on the sidewalk that is designed to look like a USPS mailbox. In the mailbox-shaped cabinet, there would be one Ericsson RRUS-11 B13, one RRUS32 B4/B66, a disconnect box for power, and a Dongan box (transformer). No electrical meter is shown. Antenna capacity is 696 to 960 MHz and 1695 to 2700 MHz bandwidths. No other equipment is shown.
Previous PHS04 5/19/2017	358 Hillside Ave Zone B	Magnolia Ave	(N) light pole to replace existing	Light at 23 feet and 11 inches	28 feet 8 inches Light at 17 feet 2 Inches	Proposed application would install two antennas with maximum height of 28 feet 8 inches on a new street light to replace existing street light in the same location. Applicants propose to install two Commscope antennas, model Andrew SBNHH-1D65A (56 inches tall and 12 inches wide). Each antenna has six ports and can receive 350 watts of input power per each port (total maximum input power of 2,100 watts, each antenna). Applicants propose an underground vault for equipment related to antennas. In the vault would be one remote radio (model RRUS-12B4) and one remote radio (model RRUS-12 B13). Both radios have maximum output power of 2 x 60W (subject to license handling). Each radio can provide service to one to eight wireless service carriers (subject to license handling). Proposed remote radios provide broad frequency capacity and include the following bandwidth ranges: 746 to 756 MHz downlink; 777 to 7787 MHz uplink; 2,110 to 2,155 MHz downlink; 1,710 to 1755 MHz uplink; B13 LTE; and B4 for WCDMA and LTE. Other vault equipment includes a sump pump, two exhaust fans, and a disconnect box.

Site Number	Location/Zone	Cross Street	Type	(E) Height/ Light	(P) Height/ Light	Project Description
Revised PHS05 9/8/2017	303 Hillside Ave Zone A	Oakland Ave	(N) utility pole #11011865 to replace existing 14.5" to foc	38 feet 8 inches No street light	43 feet (50-foot Class III utility pole with approximately 7 feet 6 inches below ground) Top of antenna at 27 feet No street light	<p>Application would install one pseudo omni-directional canister/cylinder Amphenol antenna on a new utility pole to replace an existing utility pole in the same location. New pole would be 2 feet from the back of curb.</p> <p>Applicant propose to install one Amphenol antenna, model CUUT360X06Fxyz0 (24 inches tall by 14.6 inches diameter). The antenna has six ports and can receive maximum input power of 2,200 watts (2 x 500 watts for lower bandwidths and 4 x 300 watts for higher bandwidths).</p> <p>Applicants propose to conceal equipment related to the antenna in an underground vault beneath the sidewalk (4 feet wide by 6 feet long by 4 feet deep). In the underground vault, there would be one Ericsson RRUS-11 B13, one RRUS32 B4/B66, and a disconnect box for power.</p> <p>An electrical meter is shown on the side of the pole at 7 feet above ground level.</p> <p>Antenna capacity is 696 to 960 MHz and 1695 to 2700 MHz bandwidths. No other equipment is shown.</p> <p>Utility pole arms and overhead lines rebuilt and raised. New Crown Castle fiber.</p>
Previous PHS05 5/19/2017	303 Hillside Ave Zone A	Oakland Ave	(N) utility pole #11011865 to replace existing	45 feet No street light	52 feet 10 inches (55-foot Class III Pole – per lumber specs: 12.5 inches dia., 39 inch circumference – with 7 feet 6 inches of pole beneath the ground) No street light	<p>Applications would install three antennas with maximum height of 52 feet 10 inches on a new utility pole to replace an existing utility pole in the same location.</p> <p>Applicants propose to install three, 56-inch tall Commscope antennas model Andrew SBNHH-1D65A (56 inches tall and 12 inches wide). Each antenna has six ports and can receive 350 watts of input power per each port (total maximum input power of 2,100 watts, each antenna).</p> <p>Applicants propose an underground vault for equipment related to antennas. In the vault would be one remote radio (model RRUS-12B4) and one remote radio (model RRUS-12 B13). Both radios have maximum output power of 2 x 60W (subject to license handling). Each radio can provide service to one to eight wireless service carriers (subject to license handling). Proposed remote radios provide broad frequency capacity and include the following bandwidth ranges: 746 to 756 MHz downlink; 777 to 7787 MHz uplink; 2,110 to 2,155 MHz downlink; 1,710 to 1755 MHz uplink; B13 LTE; and B4 for WCDMA and LTE. Other vault equipment includes a sump pump, two exhaust fans, and a disconnect box.</p>
Revised PHS06 9/8/2017	Across from 428 El Cerrito Ave Zone A	Jerome Ave	(N) utility pole #110118128 to replace existing 13" to foc	39 feet 10 inches No street light	43 feet (50-foot Class II utility pole with 7 feet below ground) Antenna at 26 feet 6 inches No street light	<p>Application would install one three-sector directional canister/cylinder Amphenol antenna at a maximum height of 26 feet 6 inches above the ground on a new utility pole to replace an existing utility pole in the same location.</p> <p>Applicants propose to install one Amphenol antenna, model CUUT070X06Fxyz0 (24 inches tall by 14.6 inches diameter). The antenna has 18 ports and can receive maximum input power of 6,600 watts (6 x 500 watts for lower bandwidths and 12 x 300 watts for higher bandwidths).</p> <p>Applicants propose to conceal equipment related to the antenna in an underground vault (4 feet wide by 6 feet long by 4 feet deep) beneath the sidewalk on Jerome Avenue. Applicants propose to install conduit in a trench from the underground vault to the utility pole. In the underground vault, there would be one Ericsson RRUS-11 B13, one RRUS32 B4/B66, and a disconnect box for power.</p> <p>An electrical meter is shown on the side of the pole at 7 feet above ground level. Communication and power risers shown mounted closely to pole. New Crown Castle fiber overhead. Antenna capacity is 696 to 960 MHz and 1695 to 2700 MHz bandwidths. No other equipment is shown.</p> <p>Utility pole arms and overhead lines rebuilt and raised.</p>
Previous PHS06 5/19/2017	Across from 428 El Cerrito Ave Zone A	Jerome Ave	(N) utility pole #110118128 to replace existing	39 feet 7 inches No street light	49 feet 8 inches (50-foot class II utility pole and 7 feet of pole is beneath the ground) No street light	<p>Application would install one antenna with a maximum height of 49 feet 8 inches on a new utility pole to replace an existing utility pole in the same location.</p> <p>Applicants propose to install one Commscope antenna, model Andrew SBNHH-1D65A (56 inches tall and 12 inches wide). The antenna has six ports and can receive 350 watts of input power per each port (total maximum input power of 2,100 watts).</p> <p>Applicants propose an underground vault for equipment related to the antenna. In the vault would be one remote radio (model RRUS-12B4) and one remote radio (model RRUS-12 B13). Both radios have maximum output power of 2 x 60W (subject to license handling). Each radio can provide service to one to eight wireless service carriers (subject to license handling). Proposed remote radios provide broad frequency capacity and include the following bandwidth ranges: 746 to 756 MHz downlink; 777 to 7787 MHz uplink; 2,110 to 2,155 MHz downlink; 1,710 to 1755 MHz uplink; B13 LTE; and B4 for WCDMA and LTE. Other vault equipment includes a sump pump, two exhaust fans, and a disconnect box.</p>

Site Number	Location/Zone	Cross Street	Type	(E) Height/ Light	(P) Height/ Light	Project Description
Revised PHS07 9/8/2017	Across from 352 Jerome Ave Zone A	Arbor Drive	(N) utility pole #110109891 to replace existing 15" to foc	38 feet 11 inches Light at 27 feet	Antenna at 25 feet. 43 feet for pole (50 foot pole Class H3, with 7 feet below ground) Street light at 27 feet	Application proposes one pseudo omni-directional canister/cylinder Amphenol antenna with a maximum height of 25 feet on a new utility pole to replace an existing utility pole in a modified location near Arbor Drive and Jerome Avenue. Applicants propose to install one Amphenol antenna, model CUUT360X06Fxyz0 (24 inches tall by 14.6 inches diameter). The antenna has six ports with a maximum input power of 2,200 watts (2 x 500 watts for lower bandwidths and 4 x 300 watts for higher bandwidths). Applicants propose to conceal equipment related to the antenna in a shroud mounted on the side of the utility pole. Plans do not specify material of the shroud but notes call out a 3M film with woodgrain finish. Mounted on the side of the utility pole and behind the shroud would be one Ericsson RRUS-11 B13 and one RRUS32 B4/B66. A disconnect box for power and a power meter would be mounted on the pole and would not be concealed by the shroud. An electrical meter is shown on the side of the pole at 7 feet above ground level. Communication and power risers shown mounted closely to pole. Antenna capacity is 696 to 960 MHz and 1695 to 2700 MHz bandwidths. No other equipment is shown. Utility pole arms and overhead lines rebuilt and raised. No new Crown Castle fiber is proposed overhead.
Previous PHS07 5/19/2017	355 Jerome Ave Zone A	Keefer Court and Hill Lane	(N) utility pole #110110146 to replace existing 13.5" to foc	45 feet Light at 21 feet 10 Inches	53 feet 2 inches tall. Pole is 47 feet 6 inches tall. (55-foot pole, Class H3, and 7 feet 6 inches of pole below ground level) (12.5 inches dia., 39 inch circ.). Street light at 21 feet 10 inches.	Proposed application would install three antennas on a new utility pole to replace an existing utility pole in a new location approximately 2 feet to the northwest of the existing location. Existing utility pole would be removed. Applicants propose to install three Commscope antennas, model Andrew SBNHH-1D65A (56 inches tall and 12 inches wide). Each antenna has six ports and can receive 350 watts of input power per each port (total maximum input power of 2,100 watts, each antenna). Applicants propose an underground vault for equipment related to antennas. In the vault would be one remote radio (model RRUS-12B4) and one remote radio (model RRUS-12 B13). Both radios have maximum output power of 2 x 60W (subject to license handling). Each radio can provide service to one to eight wireless service carriers (subject to license handling). Proposed remote radios provide broad frequency capacity and include the following bandwidth ranges: 746 to 756 MHz downlink; 777 to 7787 MHz uplink; 2,110 to 2,155 MHz downlink; 1,710 to 1755 MHz uplink; B13 LTE; and B4 for WCDMA and LTE. Other vault equipment includes a sump pump, two exhaust fans, and a disconnect box.
Revised PHS08 9/8/2017	1159 Winsor Ave Zone A	Park View Ave	(N) utility pole #110113803 to replace existing 10.5" to curb	30 feet 7 inches Light at 26 feet	Antenna at 35 feet. Pole at 38 feet 6 inches (45-foot Class III with 6 feet 6 inches installed below ground.) Light at 26 feet	Application proposes one three-sector directional canister/cylinder Amphenol antenna at 35 feet on a new utility pole to replace an existing one. Applicants propose to install one Amphenol antenna, model CUUT070X06Fxyz0 (24 inches tall by 14.6 inches diameter). This antenna has 18 ports and can receive 6,600 watts of input power maximum (6 x 500 watts for lower bandwidths and 12 x 300 watts for higher bandwidths). Applicants propose to conceal equipment related to the antenna in a shroud mounted on the side of the utility pole. Plans do not specify material of the shroud but notes call out a 3M film with woodgrain finish. Mounted on the side of the utility pole and behind the shroud would be one Ericsson RRUS-11 B13 and one RRUS32 B4/B66. A disconnect box for power and a power meter would be mounted on the pole and would not be concealed by the shroud. An electrical meter is shown on the side of the pole at 7 feet above ground level. Communication and power risers shown mounted closely to pole. Antenna capacity is 696 to 960 MHz and 1695 to 2700 MHz bandwidths. No other equipment is shown. Overhead lines rebuilt and raised. New Crown Castle fiber is proposed overhead.
Previous PHS08 5/19/2017	1159 Winsor Ave Zone A	Park View Ave	(N) utility pole #110113803 to replace existing	30 feet 1 inch Light at 25 feet 2 Inches	38 feet 6 inches (45-foot pole, no extension, and 6 feet 6 inches of pole beneath ground level). Class III Pole (12.5 Inches dia.) with new power meter, risers, stand-off brackets, and sign Light at 25 feet 2 inches	Proposed application would install two antennas with maximum height of 38 feet 6 inches on a new utility pole to replace an existing utility pole in a new locations approximately 2 feet 6 inches to the east of the existing location. Existing utility pole would be removed. Applicants propose to install two Commscope antennas model Andrew SBNHH-1D65A (56 inches tall and 12 inches wide). Each antenna has six ports and can receive 350 watts of input power per each port (total maximum input power of 2,100 watts, each antenna). Applicants propose an underground vault for equipment related to antennas. In the vault would be one remote radio (model RRUS-12B4) and one remote radio (model RRUS-12 B13). Both radios have maximum output power of 2 x 60W (subject to license handling). Each radio can provide service to one to eight wireless service carriers (subject to license handling). Proposed remote radios provide broad frequency capacity and include the following bandwidth ranges: 746 to 756 MHz downlink; 777 to 7787 MHz uplink; 2,110 to 2,155 MHz downlink; 1,710 to 1755 MHz uplink; B13 LTE; and B4 for WCDMA and LTE. Other vault equipment includes a sump pump, two exhaust fans, and a disconnect box.

Site Number	Location/Zone	Cross Street	Type	(E) Height/ Light	(P) Height/ Light	Project Description
Revised PHS09 9/8/2017	Across from 314 Wildwood Avenue Piedmont Park Zone B	Prospect Rd	(N) new antenna and new decorative park light	None	29 feet 8.5 inches 38 feet? Light heights at approximately 14 feet	<p>Proposed application would install one three-sector directional canister/cylinder Amphenol antenna with maximum height of 38 feet 9 inches on a new ornamental light standard in Piedmont Park near the Wildwood Avenue entrance and 100 Requa Road.</p> <p>Applicants propose to install one Amphenol antenna, model CUUT070X12Fxyz0 (48 inches tall and 14.6 inches diameter). The antenna has 18 ports and can receive a maximum input power of 6,600 watts (6 x 500 watts in the low band and 12 x 300 watts in the high band frequencies).</p> <p>Applicants propose to conceal equipment related to the antenna in an underground vault (4 feet wide by 6 feet long and 4 feet deep) beneath the sidewalk on Wildwood Avenue. Inside the vault, there would be one Ericsson RRUS-11 B13, one RRUS32 B4/B66, a disconnect box for power, and a Dongan box (transformer). No electrical meter is shown. Power would be connected in a 30 foot conduit in a trench to an existing utility pole.</p> <p>Antenna capacity is 696 to 960 MHz and 1695 to 2700 MHz bandwidths. No other equipment is shown.</p>
Previous PHS09 5/19/2017	Across from 314 Wildwood Ave in R-O-W Zone B	Prospect Rd	(N) new antennas and new street light	None	35 feet 1 inch Light at approximately 31 feet 6 inches (not specified on plan)	<p>Proposed application would install two antennas with maximum height of 35 feet 1 inch on a new steel "cobra head" street light in the location of an existing school parking sign.</p> <p>Applicants propose to install two Commscope antennas, model Andrew SBNHH-1D65A (56 inches tall and 12 inches wide). Each antenna has six ports and can receive 350 watts of input power per each port (total maximum input power of 2,100 watts, each antenna).</p> <p>Applicants propose an underground vault for equipment related to antennas. In the vault would be one remote radio (model RRUS-12B4) and one remote radio (model RRUS-12 B13). Both radios have maximum output power of 2 x 60W (subject to license handling). Each radio can provide service to one to eight wireless service carriers (subject to license handling). Proposed remote radios provide broad frequency capacity and include the following bandwidth ranges: 746 to 756 MHz downlink; 777 to 7787 MHz uplink; 2,110 to 2,155 MHz downlink; 1,710 to 1755 MHz uplink; B13 LTE; and B4 for WCDMA and LTE. Other vault equipment includes a sump pump, two exhaust fans, and a disconnect box.</p>

CITY OF PIEDMONT
120 VISTA AVENUE
PIEDMONT, CA 94611
TEL: (510) 420-3050
FAX: (510) 658-3167

RECEIVED BY _____
DEPOSIT PAID _____
DATE FILED _____
NUMBER _____
PLANNER _____
(For staff use only)

**APPLICATION FOR:
WIRELESS COMMUNICATIONS FACILITIES (WCF)**

Purpose: *The purpose of the application is to provide a mechanism for an applicant to supply necessary information to the City of Piedmont so that it can review the proposed project for conformance with all applicable regulations and guidelines. The purpose of Chapter 17.46, Wireless Communications Facilities, is to provide a comprehensive set of standards for the development and installation of wireless communication facilities. The regulations are designed to protect and promote public safety and community welfare, property values, and the character and aesthetic quality of the city, while at the same time not unduly restricting the development of wireless communication facilities, and not unreasonably discriminating among wireless communication service providers of functionally equivalent services, including retail and other commercial providers of wireless communication services. This division applies to applications for approval of the installation of new or modified wireless communication facilities, including applications previously received by the city but not yet approved, disapproved or conditionally approved by a final city decision.*

Fees:	<u> x </u>	\$2,710	Initial Deposit (the total fee will be equal to the cost to process)
	<u> </u>	\$5,425	Initial Deposit if 3 rd party review is required pursuant to 17G.3.1(i) (the total fee will be equal to the cost to process)
	<u> </u>	\$815	One variance
	<u> </u>	\$405	Each additional variance
	<u> \$2,710 </u>	TOTAL	

Project Address: PIEDMONT HIGH SCHOOL 09 - ACROSS FROM 314 WILDWOOD AVE (ZONE B)

2 sets of plans must be submitted with this application for an initial staff review for completeness.
8 additional sets of plans may be requested by City Staff if this application is to be heard by the Planning Commission and/or the City Council.

Application Fees

The cost to process the application will determine the final application fees. You will be charged for any amount not covered by the initial deposit. If the cost to process the application is less than the initial deposit, you will receive a partial refund of your deposit.

Please indicate what steps you have taken to discuss this project with City staff prior to submittal: Crown Castle & Beacon Development have had numerous meetings with the City to discuss the project.

Detailed Description of Proposed Project: *Please attach additional pages, as needed.*

INSTALL NEW 29' 8.5" SUPPORTING DOUBLE ACORN DECORATIVE POLE.
 INSTALL (1) AMPHENOL ANTENNA MODEL # CUUT070X12Fxyz0.
 INSTALL CROWN CASTLE 4' X 6' X 4' SMART VAULT WITH NON SLIP LID. PLACE
 (1) RRUS-11 B13, (1) RRUS-32 B4/66 RADIOS, (1) DISCONNECT BOX AND (1)
 DONGAN BOX INSIDE.

I. Applicant Information:

Name of Commercial Wireless Provider: Crown Castle NG West LLC
Contact Person at Company: Sharon James
Company Address: 695 River Oaks Parkway
City San Jose State CA Zip 95134
Office phone #: (408) 468-5553 **Mobile Phone #:** (408) 426-6629
Fax #: _____ **Email Address:** _____

Project Applicant (e.g. the wireless provider's agent):

Company Name: Beacon Development, LLC
Contact Person at Company: Bob Gundermann & Jason Osborne
Company Address: 3 Rovina Lane
City Petaluma State CA Zip 94952
Office phone #: (925) 899-1999 **Mobile Phone #:** (415) 559-2121
Fax #: (415) 358-5766 **Email Address:** jason@beacondev.net
Agent's Prof. License #: n/a **Expiration Date:** _____
Piedmont Business License # of Agent: Will obtain **Expiration Date:** _____
 (Please contact the City Clerk at 510-420-3040 for Piedmont Business License information.)

Property Owner Information:

Property Owner Name: City of Piedmont
Mailing Address: 120 Vista Avenue
City Piedmont State CA Zip 95611
Office phone #: (510) 420-3039 **Mobile Phone #:** _____
Fax #: (510) 658-3167 **Email Address:** kjackson@ci.piedmont.ca.us

My signature below signifies that I:

- have read and provided all applicable information per this Application for Wireless Communications Facilities, including the information listed in the Submittal Checklist.
- have reviewed the legal description on the property deed and indicated all recorded easements and deed restrictions on the submitted site plan (*Please provide a description here of the easements and restrictions that were indicated on the property deed of the subject property*) _____

- believe the information provided in this application is accurate to the best of my knowledge.
- am aware that my initial deposits of \$2,360 or \$4,720 (exclusive of variance fees) may not cover the cost to process this pre-application and that additional deposits may be required. I agree to provide additional deposits if they are required. I am aware that the City will deduct the costs to cover the processing of this application from the deposit(s), and that any unused money remaining after action has been taken on the project, will be returned to me.
- am aware that City staff, Planning Commissioners, and/or City Council Members will be on the property to view proposed construction. (Please note any special instructions regarding access to the property such as gates, alarms, etc.) _____

- understand that if this application is approved, a building permit (issued within one year from the approval date) is required for construction and that no construction may commence prior to the issuance of the building permit. No changes may be made without City approval, and changes may require a new application.

SIGNATURE OF PROPERTY OWNER:

Pursuant to RUA between City of Piedmont and Crown Castle NG West LLC

Print Name	Signature	Date

SIGNATURE OF WIRELESS SERVICE PROVIDER’S AUTHORIZED REPRESENTATIVE:

Print Name	Signature	Date

AGENT AUTHORIZATION: This authorization must be signed by the property owner if the applicant is not the property owner. This authorization also permits City staff to contact the Wireless Service Provider and it agent if necessary.

I authorize Jason Osborne to act as my agent in the processing of all matters pertaining to this application.

SIGNATURE OF PROPERTY OWNER _____ date _____

II. Land Use Information:**A. Land Use Zone:**

Please circle the land use zone of the proposed project: A **B** C D E

If the project is located in a zone other than Zone B, other than publicly-owned facilities in other zones, or other than the public right-of-way, please submit a written statement explaining the attempts made to locate in Zone B, on publicly-owned facilities in other zones, and in the public right-of-way, and the supporting materials outlined in the Documentation Checklist (Section VIII. of this application).

B. New Facility Project:

1. Is the proposed project located on a property used for residential purposes? Yes No
2. Does the project include the siting or construction of a new WCF facility? Yes No
3. Does the project consist of communications equipment located completely inside a structure, not visible from the outside, whose purpose is solely to provide wireless communications within the same structure, including Wi-Fi hotspots and access points, with no alteration to the exterior of the structure? Yes No

C. Existing Facility Project:

1. Is the project at an existing WCF facility? Yes No
2. Is the project for maintenance and repair (in which the model, type, mechanical, and electrical specifications, size and number of existing antennas, feed lines and ground-mounted equipment remains the same; OR is the project an upgrade project in which any equipment is added and/or replaced? Maintenance & Repair Upgrade
3. If the project is an "Upgrade" to an existing facility, please identify any of the following descriptions that apply:
 - a. Replacement of antenna(s): Yes No number_____
 - b. Addition of antenna(s): Yes No number_____
 - c. Replacement of feed line(s): Yes No number_____
 - d. Addition of feed line(s): Yes No number_____
 - e. Replacement of ground mounted equipment: Yes No number_____
 - f. Addition of ground mounted equipment: Yes No number_____
 - g. Changes to access, parking, or landscaping: Yes No
 - h. Increase in the height of freestanding tower: Yes No
 - i. Replacement of wireless tower or foundation: Yes No
 - j. Changes to conceal or camouflage exterior: Yes No

k. Other (describe): _____

4. If the project is an “upgrade” to an existing facility, please describe how the project camouflages, conceals and/or screens the modified equipment so as to mitigate any adverse impact on aesthetics and views. N/A

5. If the project is an “upgrade” to an existing facility, please describe any proposed changes to the physical size of the exposed surface area of all existing components of the tower or base station (including but not limited to the height, circumference, width of the wireless tower or base station, etc.) or any increase by more than 10% from the existing dimensions of any structure(s) required to support the wireless tower or base station (such as guy wires, brackets, beams, etc.). N/A

D. Facilities located within the Public Right-of-Way:

- 1. Is the provider is a telephone corporation? Yes No
→ If yes, please provide certification as outlined in Section IX of this application.
- 2. Do you have an environmental review document certified by the CPUC? Yes No
→ If yes, please provide a copy of the document as outlined in Section IX of this application.
- 3. Is the facility proposed to be sited on a City pole (streetlight standard)? Yes No
→ If yes, please provide a list of the pole(s) as outlined in Section IX of this application.
- 4. Is the facility proposed to be sited on a third party’s utility pole? Yes No
→ If yes, please provide written authorization from the appropriate utility company.

E. Height:

What is the maximum height (measured from lowest adjacent grade) of the new or replacement antenna, pole and/or equipment? 29 feet 8.5 inches

(Please be aware of the maximum building height from grade for each zone in which the wireless communication facility is located, including existing structures or facilities to which the antennae are proposed to be mounted.)

F. California Environmental Quality Act (CEQA):

Do you believe the project is exempt from CEQA? Yes No

1. If yes, please cite the statutory or categorical exemption in Articles 18 and 19 of the CEQA Guidelines, Title 14 of the California Code Regulations and explain how the project meets this exemption: Section 15301(b)



III. Building and Structural Information:

A. Loading:

Are additional gravity and wind loads likely to result from components of the project, such as additional arrays, or bigger, heavier antennas or mounting arms not accounted for in the original design? Yes No

1. If yes, please describe the new loads and the equipment causing them. Adding two antennas. New structurals will be provided at time of BP.
submittal.

B. Excavation, trenching and grade modifications:

Does the proposed project include any excavation, trenching and/or grade modifications?
 Yes No

1. If yes, please describe: See page D-1 of attached drawings



IV. Applicant’s Wireless Communications Facilities Findings:

The following information is required from all applicants.

Please describe how the proposed project meets the following summarized Wireless Communications Facilities Development Standards outlined in Section 17.46.070 of the City’s Municipal Code.

- a) **New wireless communications facilities must be collocated with existing facilities and with other planned new facilities whenever feasible..** Please note that §17.46.070.A.1 states “A new wireless tower must be designed and constructed to accommodate future collocation(s) unless the city determines that collocation would be infeasible because of physical or design issues specific to the site.” *(Indicate whether the proposed facility will be collocated with another facility. If it will not, comment on the feasibility of collocation and indicate what measures have been taken to attempt to collocate the facility with another facility. Additionally, indicate the aesthetic benefits and drawbacks of the proposed facility.):*

Placing new wireless communication facilities on new light pole

- b) **No wireless communication facility may exceed 35 feet in height, measured from the ground to the highest point of the wireless communication facility, unless the zoning district in which the wireless communication facility is located expressly provides a higher height limit. Ground mounted wireless communication equipment, base station, antenna, pole, or tower must be the minimum functional height, unless a variance is granted. Roof mounted equipment and antennas must be located to minimize visibility.** *(Indicate the height of any ground mounted equipment, antennas, poles or towers and explain why the proposed heights are required.):*

Ground equipment will be placed in underground vault. No visual impact. Antennas placed at 27'-8.5" RAD center.

- c) **Wireless communication facility(ies) must be designed to minimize visual impacts. When feasible, the facility(ies) must be concealed or camouflaged. The facility(ies) must have a non-reflective finish and be painted or otherwise treated to minimize visibility and the obstruction of views. The facility(ies) may not bear signs, other than certification, warning, emergency contacts, or other signage required by law or expressly required by the City.** *(Describe the materials and finishes of the equipment, antennas, poles, and towers and indicate how these materials and finishes will be non-reflective and will minimize any visual impacts.):* Equipment will be painted to match pole.

A wireless communication receiving and transmission facility may not adversely affect the public health, peace and safety. (*Indicate any measures proposed to address the public health, peace and safety.*): Site is in compliance with FCC standards. No further mitigation measures needed. See attached EMF study.

- e) **A wireless communication facility located in the public right-of-way may not cause: (i) physical or visual obstruction, or safety hazard, to pedestrians, cyclists, or motorists; or (ii) inconvenience to the public's use of the right-of-way. Equipment, walls, and landscaping located above grade must be at least 18 inches from the front of the curb and not interfere with the public's use of the right-of-way.** See attached EMF study

Ground equipment will be vaulted and equipment on pole painted to match.

- f) **Each wireless communication facility must comply with federal and state statutes governing local agencies' land use authority regarding the siting of wireless communication facilities, including without limitation 47 USC sections 253, 332(c)(7), 47 USC section 1455 (also known as section 6409 of the 2012 Middle Class Tax Relief and Jobs Act), California Government Code sections 50030, 65850.6 and 65964, and California Public Utilities Code sections 7901 and 7901.1. Each reference to a federal and state statutes is to the statute as it may be as amended from time-to-time and to the extent the statute remains in effect.** Crown Castle is a public utility that is authorized by the FCC and the

California Public Utilities Code § 7901 that grants a statewide franchise to telephone corporations to place telephone equipment in the public rights of way.

V. Applicant’s Wireless Communications Facilities Priority for Location Findings:

The following information is required from all projects located in Zones A, C, D & E, projects not located in or on publicly-owned facilities, or projects in locations other than the public right-of-way.

Please describe how the proposed project meets the following summarized Wireless Communications Facilities Development Standards outlined in Section 17.46.040 of the City’s Municipal Code.

- a) The facility is necessary to close a significant gap in the operator's service coverage or capacity. *Please comment:* _____

 N/A

- b) The proposal satisfies each of the applicable development standards in section 17.46.070 above. *Please comment:* _____

 N/A

- c) The applicant has evaluated and met the priority for location standards of section 17.46.040 A above., including the evaluation of a possible alternative site(s) in Zone D that is not used for residential purposes; evaluation of a possible alternative site(s) in non-residential property in Zone A, C or E; evaluation of a possible alternative site(s) on or in an existing structure where the wireless communications facility can be concealed; evaluation of a possible alternative site(s) where collocation with other wireless communications facility is possible; and evaluation of a possible alternative site(s) where the wireless communications structure can be located on or in a new structure that can be incorporated in an inconspicuous or compatible manner with the surrounding area. *Please comment:* _____

 N/A

d) The proposed design is consistent with City of Piedmont Design Guidelines. *Please comment:* _____

N/A

e) The proposed facility has been located and designed for collocation to the greatest extent reasonably feasible, and the applicant has submitted a statement of its willingness to allow other wireless service providers to collocate on the proposed facility. *Please comment:* _____

N/A

The development standards in 17.46.070 shall be fully considered. *Please make sure you have completed the Findings in Section IV of this application form.*

VI. Applicant’s Variance Findings:

The following information is required from all projects that require a variance.

In order for the Planning Commission to approve an application for a variance, required findings must be made. Please describe how the proposed project meets the variance criteria of Section 17.70 of the City’s Municipal Code.

- a) **The property and existing improvements present unusual physical circumstances of the property (including but not limited to size, shape, topography, location and surroundings), so that strictly applying the terms of this chapter would keep the property from being used in the same manner as other conforming properties in the zone; Describe specific, unique problems with the property, such as location, surroundings, mature trees, natural obstacles or formations, and explain why the improvements cannot be made in conformity with codes and regulations:** _____

N/A

- b) **The project is compatible with the immediately surrounding neighborhood and the public welfare; and Explain why, without the variance, the property cannot be used in the same manner as others in the same zone, and explain how the variance will not give the property an advantage over others in the same zone.:** _____

N/A

- c) **Accomplishing the improvement without a variance would cause unreasonable hardship in planning, design, or construction. Unreasonable hardship" for purposes of this subsection refers to the unusual physical characteristics of the underlying lot and existing improvements on the lot which prohibit development of the lot in a manner consistent with lots conforming to City standards. "Unreasonable hardship" shall not refer to any conditions personal to the applicant. Please describe the hardship(s) inherit to this property:** _____

N/A

VII. Notice Instructions:

Required for all projects that will be heard by the Planning Commission and/or City Council (e.g., non-exempt projects, projects without proposed collocation, and projects referred to the Planning Commission by the Planning Director).

1. Complete the attached Notice and make one photocopy for each adjacent neighbor.
2. Hand deliver or mail one copy of the Notice to each adjacent neighbor at least 30 days before the initial hearing. Adjacent neighbors often include one neighbor on each side, three across the street, and three in the rear. You may address the notices to "Property Owner", if you do not know the names of your adjacent neighbors.
3. Complete the attached Affidavit of Service and return it along with one copy of the Notice to the Department of Public Works at least 30 days before the hearing. Please note the Affidavit of Service is not required to be notarized.
4. Please call the Department of Public Works at (510) 420-3050, if you have any questions or would like help in determining the addresses or names of your adjacent neighbors.

**NOTICE OF AN APPLICATION FOR
WIRELESS COMMUNICATIONS FACILITY**

Dear Neighbor:

I/ We have submitted an application for consideration by the Piedmont Planning Commission which seeks City approval of an application to (description of project) _____
PIEDMONT HIGH SCHOOL 09 - ACROSS FROM 314 WILDWOOD AVE

The purpose of this form is to notify you of my application. My application will be considered by the Planning Commission on or after (date) _____.

This notice will be followed by a notice from the City confirming the date of the hearing and inviting you to comment on the application. The Planning Commission regularly meets at 5:00 p.m. on the second Monday of every month in the Council Chambers at City Hall, 120 Vista Avenue. Please contact the Department of Public Works at 420-3050, if you have any questions regarding this application.

Signed,

Signature

Date

Jason Osborne

Name of Applicant

ACROSS FROM 314 WILDWOOD AVE

Address of Project

AFFIDAVIT OF SERVICE BY **APPLICANT/ AGENT**

(To be attached to a copy of the Notice and returned to the Department of Public Works.)

_____ being sworn, says that he or she is over 18 years of age
affiant (applicant/agent) name

and a resident of _____
County, Country

That affiant's **residence address** is _____.

That affiant served a copy of the attached notice of an application for variance and/or Planning Commission design review by placing said copy in an envelope addressed to:

which envelope was then sealed and postage fully prepaid thereon, and thereafter was on _____
date
deposited in the United States mail or delivered personally by hand.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on _____ at _____, California.
date address

Signed _____
Affiant's signature

VIII. Drawing and Document Elements Checklist:

Wireless Communications Facility (WCF) Application

A vital part of the WCF Application is to have adequate plan set information in order to properly review the proposed wireless telecommunications facility in conformance with Chapter 17.46 of the Municipal Code and all other relevant guidelines and regulations. Unless otherwise indicated, you must provide all of the following information. Two (2) sets of drawings (24" x 36" in size) must be submitted with the WCF Application. All drawings must be accurately scaled and dimensioned. One copy of non-drawing documents must be submitted with the WCF Application.

Should your application be deemed complete and placed on the agenda for a Commission or Council hearing, **8 additional sets of plans** will be requested by City Staff.

Existing Site Plan (preferred scale 1/8") should include:

- Scale, north arrow, and dimensions;
- Property lines, easements, streets, pavement striping, sidewalks, curbs, curb ramps, and rights-of-way;
- Location of existing structures, hardscape areas, fences, retaining walls, trees, hedges and other significant site features;
- Roof plans should be shown for all structures (rather than floor plans). Roof plans should include all edges and ridges, the roof slope, overhangs, skylights, chimneys, vents, and other equipment or antennas;
- Setback dimensions measured from the property lines to the closest point of Structure(s) (§17.2.71-73), including eaves and other architectural projections.

Proposed Site Plan (preferred scale 1/8") should include:

- Scale, north arrow, and dimensions;
- Property lines, easements, streets, pavement striping, sidewalks, curbs, curb ramps, and rights-of-way;
- Location of existing and proposed structures, hardscape areas, fences, retaining walls, trees, hedges and other significant site features;
- Roof plans should be shown for all structures (rather than floor plans). Roof plans should include all edges and ridges, the roof slope, overhangs, skylights, chimneys, vents, and other equipment or antennas;
- Footprints (outline) and identification of structures on adjacent properties within 20 feet of the property line or more than 100 feet from the proposed construction. Indicate the dimensions between the closest point of any adjacent structure and the proposed construction;
- Setback dimensions measured from the property lines to the closest point of proposed ground-mounted equipment, antenna, and Structure(s) (§17.2.71-73) including eaves and other architectural projections.

Existing Elevations (or Photographs should no existing building exist) (preferred scale 1/4") should include:

- Scale, dimensions, and drawing label indicating the cardinal direction (or indicated plan direction) the depicted wall is facing;
- All elevations of each structure on which modifications are proposed;
- Show buildings, other structures, WCF equipment, fences, retaining walls, and any other relevant feature;
- Indication of building materials for walls, roofs, windows, doors, decorative features, and WCF equipment and antennas;
- Indication of the height of buildings, structures and WCF equipment. Heights are measured to the highest point of the feature from both the lowest adjacent grade and highest adjacent grade. Adjacent grade is where grade meets the footprint of the building or structure;
- Photographs showing existing conditions may be submitted as supplemental information or in place of elevations when no existing structures or buildings exist on site.

Proposed Elevations (preferred scale 1/4") should include:

- Scale, dimensions, and drawing label indicating the cardinal direction (or indicated plan direction) the depicted wall is facing;
- All elevations of each structure on which modifications are proposed;
- Show buildings, other structures, WCF equipment, fences, retaining walls, required signage, and any other relevant feature;
- Indication of proposed building materials for walls, roofs, windows, doors, decorative features, and WCF equipment and antennas;
- Indication of the proposed height of new buildings, structures and WCF equipment. Heights are measured to the highest point of the feature from both the lowest adjacent grade and highest adjacent grade. Adjacent grade is where grade meets the footprint of the building or structure;
- Photographs or photo simulations showing proposed conditions may be submitted as supplemental information.

Equipment Details (preferred scale at least 1/2") should include:

- Scale, dimensions, and drawing label;
- Include details of antenna and other proposed wireless communications equipment.

Landscape plans (preferred scale 1/8") should include:

- Scale, north arrow and dimensions;
- Include property lines, footprints of all structures and all hardscape areas;
- Show planting areas and provide a plant list including the size and species;
- Arborist report for work within the driplines of existing trees;
- Provide information on irrigation.

Photo Simulations (optional):

- In addition to proposed elevations, photo simulations may be submitted to demonstrate the aesthetics and impacts of a proposed wireless communications facility.

Story Poles, per City of Piedmont story pole policy.**Graphic Calculations (1 set only):**

Please submit plans which graphically illustrate the required calculations. Calculations are expressed as percentages. Separate graphic calculations are to be submitted, as follows:

- Existing and Proposed Structure Coverage** equals the number of square feet of structures covering the lot divided by the number of square feet in the lot. (Equipment, antennas, poles, and towers are included in this calculation.) For a complete definition of structure coverage, please see Piedmont City Code §17.2.71-73.
- Existing and Proposed Hardscape Surface Coverage** equals the number of square feet of structures plus the number of square feet of all hardscape, all divided by the number of square feet in the lot. For a complete definition of Hardscape Surface, please see Piedmont City Code §17.2.35.

Documentation for sites outside of Zone B, publicly-owned facilities in other zones, or the public right-of-way:

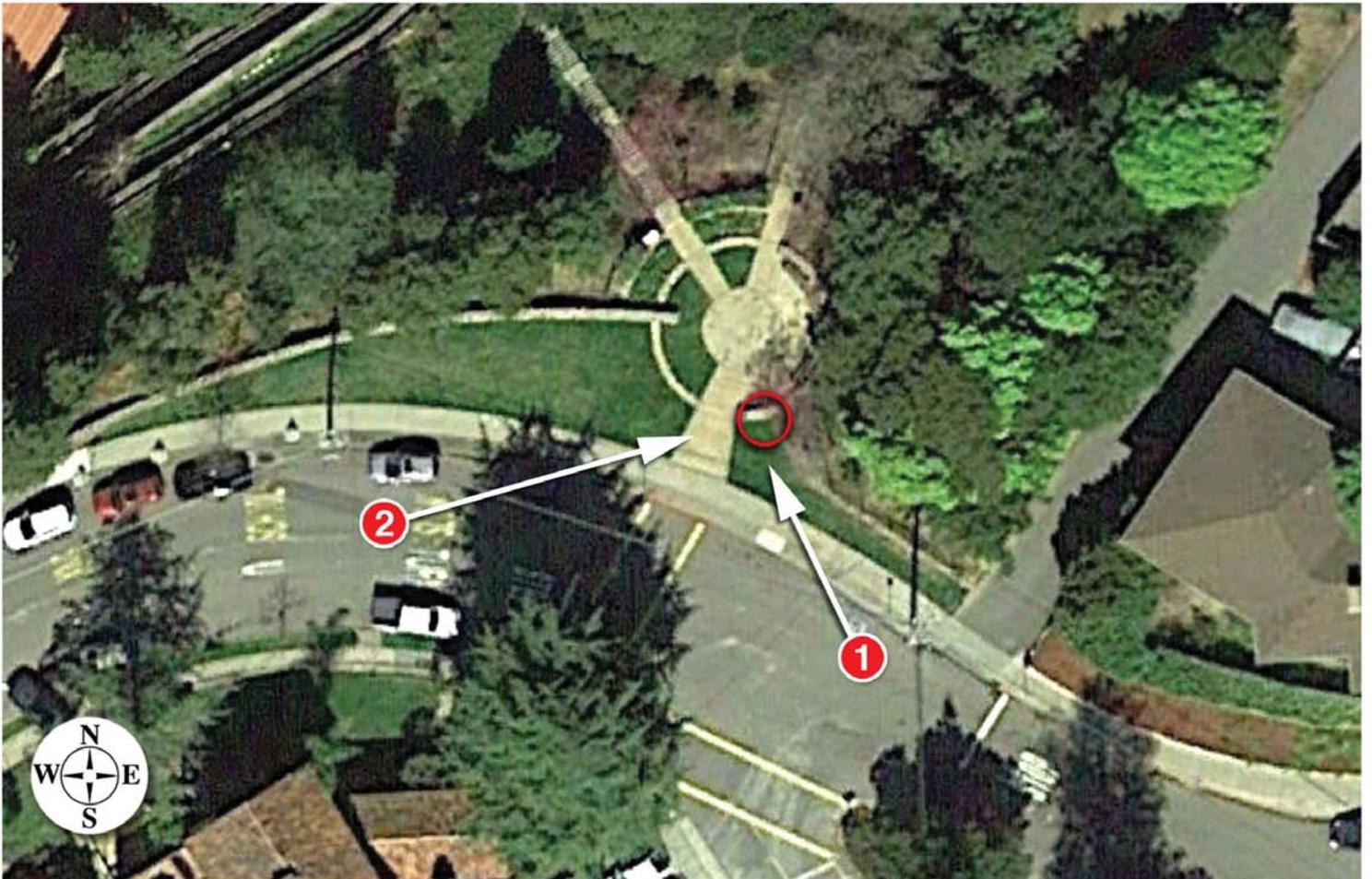
- Map and Written Description** showing and describing the exact area in Piedmont which applicant contends cannot receive coverage from a site in Zone B or a site outside of City, showing the boundaries of the area clearly on a map and setting forth the exact street addresses of each Piedmont home not within the area receiving coverage – Piedmont City Code §17G.4.2(a).
- Copies of Detailed Technical Reports or Tests** which clearly prove that each home within the area fails to receive coverage from Zone B or from any other Zone within Piedmont, or from specific locations outside of Piedmont – Piedmont City Code §17G.4.2(b).
- Copies of Detailed Technical Reports or Tests** which prove that each home within the area does receive coverage from the alternate site proposed by applicant – Piedmont City Code §17G.4.2(c).

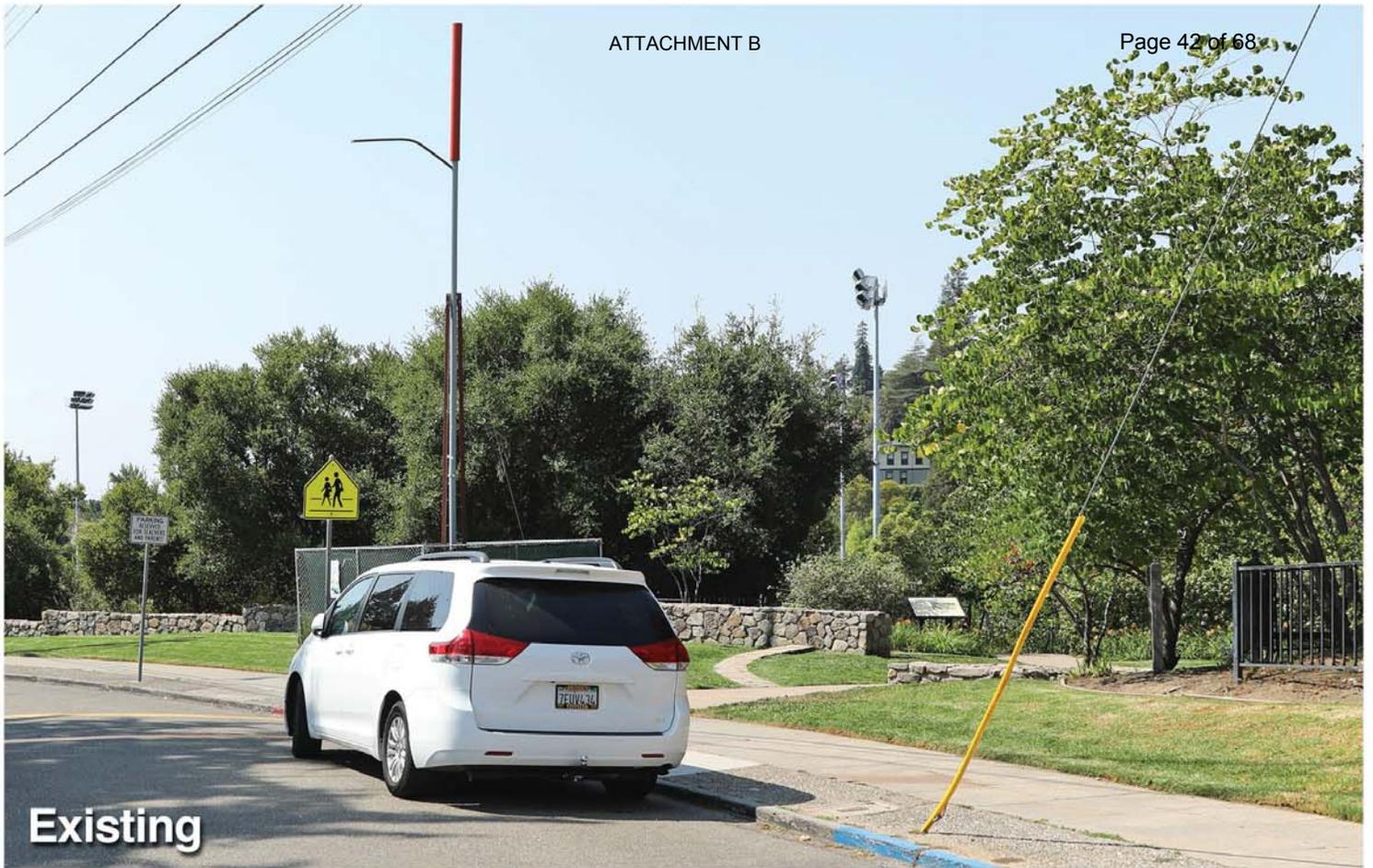
- List of All Possible Site Locations within Zone B** and all possible site locations outside of the city from which applicant has conducted tests to determine if coverage is feasible, including copies of all reports or test results from each such possible site – Piedmont City Code §17G.4.2(d).
- Exact Information on All Possible Site Locations Outside of Zone B within the City** from which applicant has conducted tests to determine if coverage is feasible, including copies of all reports or test results from each such possible site – Piedmont City Code §17G.4.2(e).
- Exact Information on the Alternate Site** proposed by the applicant, including the exact location of the site as shown on a map and by street address, a copy of an executed Lease or PCS Site Agreement for the site, a detailed report on all costs and expenses in constructing and completing such site for use, including a verifiable bid for the work on such site, and an exact schematic drawing – Piedmont City Code §17G.4.2(f).

Documentation for Wireless Communication Facilities located within the Public Right-of-Way (ROW):

- Certification that the provider is a telephone corporation.
- Any environmental review document(s) certified by the California Public Utilities Commission for siting the proposed facilities in the City's ROW.
- For projects in which the facility is proposed to be sited on a City pole (e.g., streetlight standard), please provide a list of said poles including identification by location and badge/ID number.
- For projects in which the facility is proposed to be sited on a third party's utility pole (e.g., PG&E pole), please provide a list of said poles including identification by location and badge/ID number AND written authorization from the appropriate utility company.
- Site plans that illustrate the boundaries of the ROW and the location of infrastructure in the ROW, including without limitation sidewalks, curbs, gutters, driveways, landscaping, other existing communications equipment, utility poles, light poles, fire hydrants, bus stops, bike lanes, traffic signals and above and below ground utility equipment vaults, etc.
- Analysis demonstrating the impacts to sightlines for drivers, bicyclists, and pedestrians.

If you believe that any of the above requirements do not pertain to your project, please call the Department of Public Works at (510) 420-3050 and make an appointment to meet with a planner.

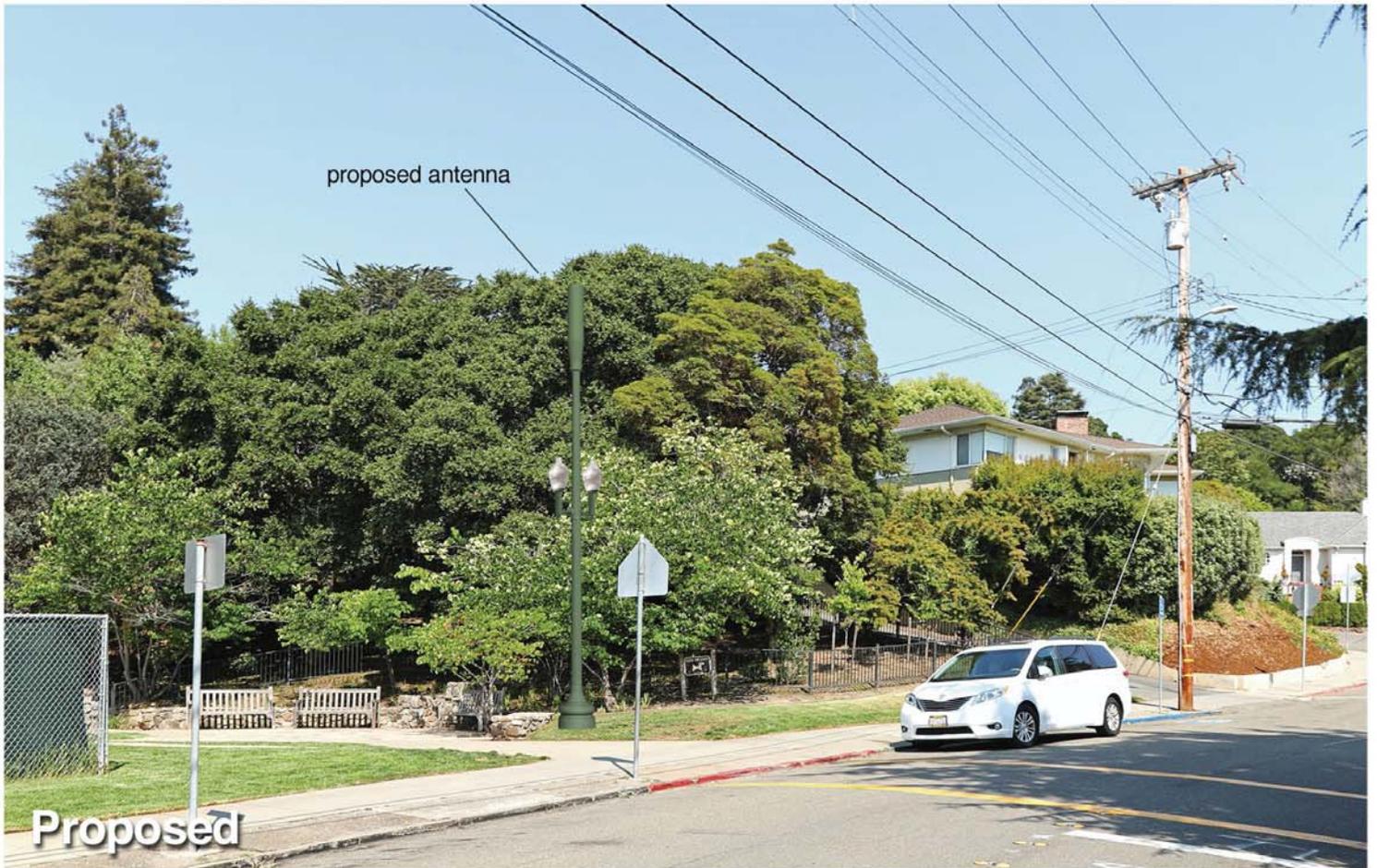




Existing



Proposed



Statement of Hammett & Edison, Inc., Consulting Engineers

The firm of Hammett & Edison, Inc., Consulting Engineers, has been retained on behalf of Crown Castle NG West LLC (“Crown Castle”), a wireless telecommunications facility provider, to evaluate the addition of Node No. CA-PHS09m2 to the Crown Castle distributed antenna system (“DAS”) in Piedmont, California, for compliance with appropriate guidelines limiting human exposure to radio frequency (“RF”) electromagnetic fields.

Executive Summary

Crown Castle proposes to install a cylindrical antenna on a new steel pole to be sited in the public right-of-way across from 314 Wildwood Avenue in Piedmont (coordinates North 37.820165, West 122.233858 NAD83). The proposed operation will comply with the FCC guidelines limiting public exposure to RF energy.

Prevailing Exposure Standard

The U.S. Congress requires that the Federal Communications Commission (“FCC”) evaluate its actions for possible significant impact on the environment. A summary of the FCC’s human exposure limits is shown in Figure 1. These limits apply for continuous exposures and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health. The FCC limit for exposures of unlimited duration to radio frequency energy for various wireless services are as follows:

Wireless Service	Frequency Band	Occupational Limit	Public Limit
Microwave (Point-to-Point)	5–80 GHz	5.00 mW/cm ²	1.00 mW/cm ²
WiFi (and unlicensed uses)	2–6	5.00	1.00
BRS (Broadband Radio)	2,600 MHz	5.00	1.00
WCS (Wireless Communication)	2,300	5.00	1.00
AWS (Advanced Wireless)	2,100	5.00	1.00
PCS (Personal Communication)	1,950	5.00	1.00
Cellular	870	2.90	0.58
SMR (Specialized Mobile Radio)	855	2.85	0.57
700 MHz	700	2.40	0.48
[most restrictive frequency range]	30–300	1.00	0.20

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General Facility Requirements

Wireless nodes typically consist of two distinct parts: the electronic transceivers (also called “radios” or “channels”) that are connected to a central “hub” (which in turn are connected to the traditional wired telephone lines), and the passive antenna(s) that send the wireless signals created by the radios out to be received by individual subscriber units. The radios are often located on the same pole as the antennas and are connected to the antennas by coaxial cables. Because of the short wavelength of the frequencies assigned by the FCC for wireless services, the antennas require line-of-sight paths for their signals to

propagate well and so are installed at some height above ground. The antennas are designed to concentrate their energy toward the horizon, with very little energy wasted toward the sky or the ground. This means that it is generally not possible for exposure conditions to approach the maximum permissible exposure limits without being physically very near the antennas.

Computer Modeling Method

The FCC provides direction for determining compliance in its Office of Engineering and Technology Bulletin No. 65, "Evaluating Compliance with FCC-Specified Guidelines for Human Exposure to Radio Frequency Radiation," dated August 1997. Figure 2 describes the calculation methodologies, reflecting the facts that a directional antenna's radiation pattern is not fully formed at locations very close by (the "near-field" effect) and that at greater distances the power level from an energy source decreases with the square of the distance from it (the "inverse square law"). The conservative nature of this method for evaluating exposure conditions has been verified by numerous field tests.

Site and Facility Description

Based upon information provided by Crown Castle, including drawings by Coastal Communications, dated July 11, 2017, it is proposed to install one Amphenol Model CUUT070X12F tri-directional cylindrical antenna, with two directions activated, on top of a new 30-foot steel pole to be sited in the public right-of-way opposite the residence at 314 Wildwood Avenue in Piedmont. The antenna would employ no downtilt, would be mounted at an effective height of about 27½ feet above ground, and would have its principal directions oriented toward 120°T and 240°T. Crown Castle proposes operation from this facility with a maximum effective radiated power in any direction of 1,790 watts, representing simultaneous operation at 1,540 watts for AWS and 250 watts for 700 MHz service. There are reported no other wireless base stations at the site or nearby.

Study Results

For a person anywhere at ground, the maximum RF exposure level due to the proposed operation is calculated to be 0.011 mW/cm², which is 1.4% of the applicable public exposure limit. The maximum calculated level at any nearby building is 14% of the public exposure limit. It should be noted that these results include several "worst-case" assumptions and therefore are expected to overstate actual power density levels from the proposed operation.

Recommended Mitigation Measures

Due to its mounting location and height, the Crown Castle antenna would not be accessible to unauthorized persons, and so no mitigation measures are necessary to comply with the FCC public exposure guidelines. To prevent occupational exposures in excess of the FCC guidelines, it is recommended that appropriate RF safety training, to include review of personal monitor use, be

provided to all authorized personnel who have access to the antenna. No access within 7 feet directly in front of the antenna itself, such as might occur during certain maintenance activities on the pole, should be allowed while the antenna is in operation, unless other measures can be demonstrated to ensure that occupational protection requirements are met. Posting explanatory signs* on the pole at or below the antenna, such that the signs would be readily visible from any angle of approach to persons who might need to work within that distance, would be sufficient to meet FCC-adopted guidelines.

Conclusion

Based on the information and analysis above, it is the undersigned’s professional opinion that operation of the node proposed by Crown Castle NG West LLC across from 314 Wildwood Avenue in Piedmont, California, will comply with the prevailing standards for limiting public exposure to radio frequency energy and, therefore, will not for this reason cause a significant impact on the environment. The highest calculated level in publicly accessible areas is much less than the prevailing standards allow for exposures of unlimited duration. This finding is consistent with measurements of actual exposure conditions taken at other operating base stations. Training authorized personnel and posting explanatory signs are recommended to establish compliance with occupational exposure limits.

Authorship

The undersigned author of this statement is a qualified Professional Engineer, holding California Registration Nos. E-13026 and M-20676, which expire on June 30, 2019. This work has been carried out under his direction, and all statements are true and correct of his own knowledge except, where noted, when data has been supplied by others, which data he believes to be correct.

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August 4, 2017



William F. Hammett

William F. Hammett, P.E.
707/996-5200

Appendix

Carrier	Ground – MPE Level General Population %	Antenna – MPE Level General Population %	Antenna – MPE Level Occupational %
Verizon	1.4%	2100%	420%
Calculated at 0.5 meters from antenna face			

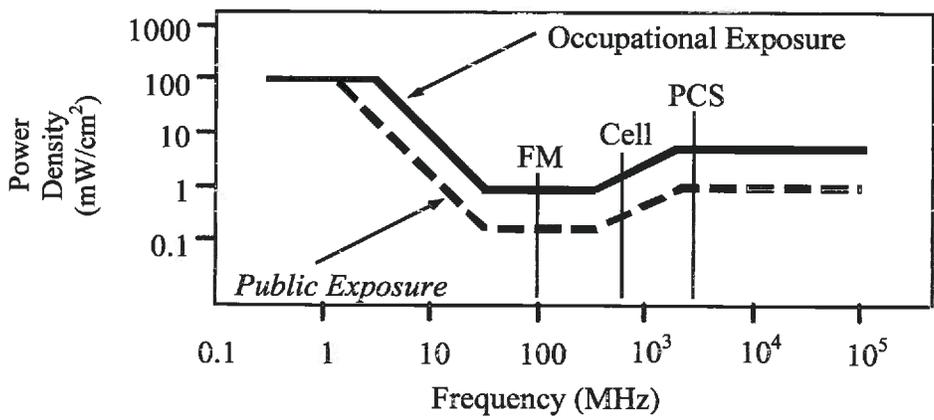
* Signs should comply with OET-65 color, symbol, and content recommendations. Attached are sample signs in a format provided by Crown Castle. The selection of language(s) is not an engineering matter, and guidance from the landlord, local zoning or health authority, or appropriate professionals may be required.

The U.S. Congress required (1996 Telecom Act) the Federal Communications Commission (“FCC”) to adopt a nationwide human exposure standard to ensure that its licensees do not, cumulatively, have a significant impact on the environment. The FCC adopted the limits from Report No. 86, “Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields,” published in 1986 by the Congressionally chartered National Council on Radiation Protection and Measurements (“NCRP”). Separate limits apply for occupational and public exposure conditions, with the latter limits generally five times more restrictive. The more recent standard, developed by the Institute of Electrical and Electronics Engineers and approved as American National Standard ANSI/IEEE C95.1-2006, “Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz,” includes similar limits. These limits apply for continuous exposures from all sources and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health.

As shown in the table and chart below, separate limits apply for occupational and public exposure conditions, with the latter limits (in *italics* and/or dashed) up to five times more restrictive:

Frequency Applicable Range (MHz)	Electromagnetic Fields (<i>f</i> is frequency of emission in MHz)					
	Electric Field Strength (V/m)		Magnetic Field Strength (A/m)		Equivalent Far-Field Power Density (mW/cm ²)	
0.3 – 1.34	614	<i>614</i>	1.63	<i>1.63</i>	100	<i>100</i>
1.34 – 3.0	614	<i>823.8/f</i>	1.63	<i>2.19/f</i>	100	<i>180/f²</i>
3.0 – 30	1842/ <i>f</i>	<i>823.8/f</i>	4.89/ <i>f</i>	<i>2.19/f</i>	900/ <i>f²</i>	<i>180/f²</i>
30 – 300	61.4	<i>27.5</i>	0.163	<i>0.0729</i>	1.0	<i>0.2</i>
300 – 1,500	3.54√ <i>f</i>	<i>1.59√f</i>	√ <i>f</i> /106	<i>√f/238</i>	<i>f/300</i>	<i>f/1500</i>
1,500 – 100,000	137	<i>61.4</i>	0.364	<i>0.163</i>	5.0	<i>1.0</i>

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Higher levels are allowed for short periods of time, such that total exposure levels averaged over six or thirty minutes, for occupational or public settings, respectively, do not exceed the limits, and higher levels also are allowed for exposures to small areas, such that the spatially averaged levels do not exceed the limits. However, neither of these allowances is incorporated in the conservative calculation formulas in the FCC Office of Engineering and Technology Bulletin No. 65 (August 1997) for projecting field levels. Hammett & Edison has built those formulas into a proprietary program that calculates, at each location on an arbitrary rectangular grid, the total expected power density from any number of individual radio sources. The program allows for the description of buildings and uneven terrain, if required to obtain more accurate projections.

Assessment by Calculation of Compliance with FCC Exposure Guidelines

The U.S. Congress required (1996 Telecom Act) the Federal Communications Commission (“FCC”) to adopt a nationwide human exposure standard to ensure that its licensees do not, cumulatively, have a significant impact on the environment. The maximum permissible exposure limits adopted by the FCC (see Figure 1) apply for continuous exposures from all sources and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health. Higher levels are allowed for short periods of time, such that total exposure levels averaged over six or thirty minutes, for occupational or public settings, respectively, do not exceed the limits.

Near Field.

Prediction methods have been developed for the near field zone of panel (directional) and whip (omnidirectional) antennas, typical at wireless telecommunications base stations, as well as dish (aperture) antennas, typically used for microwave links. The antenna patterns are not fully formed in the near field at these antennas, and the FCC Office of Engineering and Technology Bulletin No. 65 (August 1997) gives suitable formulas for calculating power density within such zones.

For a panel or whip antenna, power density $S = \frac{180}{\theta_{BW}} \times \frac{0.1 \times P_{net}}{\pi \times D \times h}$, in mW/cm²,

and for an aperture antenna, maximum power density $S_{max} = \frac{0.1 \times 16 \times \eta \times P_{net}}{\pi \times h^2}$, in mW/cm²,

- where θ_{BW} = half-power beamwidth of the antenna, in degrees, and
- P_{net} = net power input to the antenna, in watts,
- D = distance from antenna, in meters,
- h = aperture height of the antenna, in meters, and
- η = aperture efficiency (unitless, typically 0.5-0.8).

The factor of 0.1 in the numerators converts to the desired units of power density.

Far Field.

OET-65 gives this formula for calculating power density in the far field of an individual RF source:

power density $S = \frac{2.56 \times 1.64 \times 100 \times RFF^2 \times ERP}{4 \times \pi \times D^2}$, in mW/cm²,

- where ERP = total ERP (all polarizations), in kilowatts,
- RFF = relative field factor at the direction to the actual point of calculation, and
- D = distance from the center of radiation to the point of calculation, in meters.

The factor of 2.56 accounts for the increase in power density due to ground reflection, assuming a reflection coefficient of 1.6 (1.6 x 1.6 = 2.56). The factor of 1.64 is the gain of a half-wave dipole relative to an isotropic radiator. The factor of 100 in the numerator converts to the desired units of power density. This formula has been built into a proprietary program that calculates, at each location on an arbitrary rectangular grid, the total expected power density from any number of individual radiation sources. The program also allows for the description of uneven terrain in the vicinity, to obtain more accurate projections.

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CAUTION

**Keep Back 7 FT From
this Antenna. FCC RF Public
Exposure Limits May Be
Exceeded Within This Distance.
Call 888-632-0931 for Instructions.**

**Qualified Workers:
FCC Occupational Limits May Be
Exceeded Within This Distance.**

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NOTICE

POLE WORKERS

There is an antenna operation high on this pole. Please follow guidance on signs near the antenna or call the number below.

Site ID # CA-PHS09m2

CC CROWN CASTLE **888-632-0931**

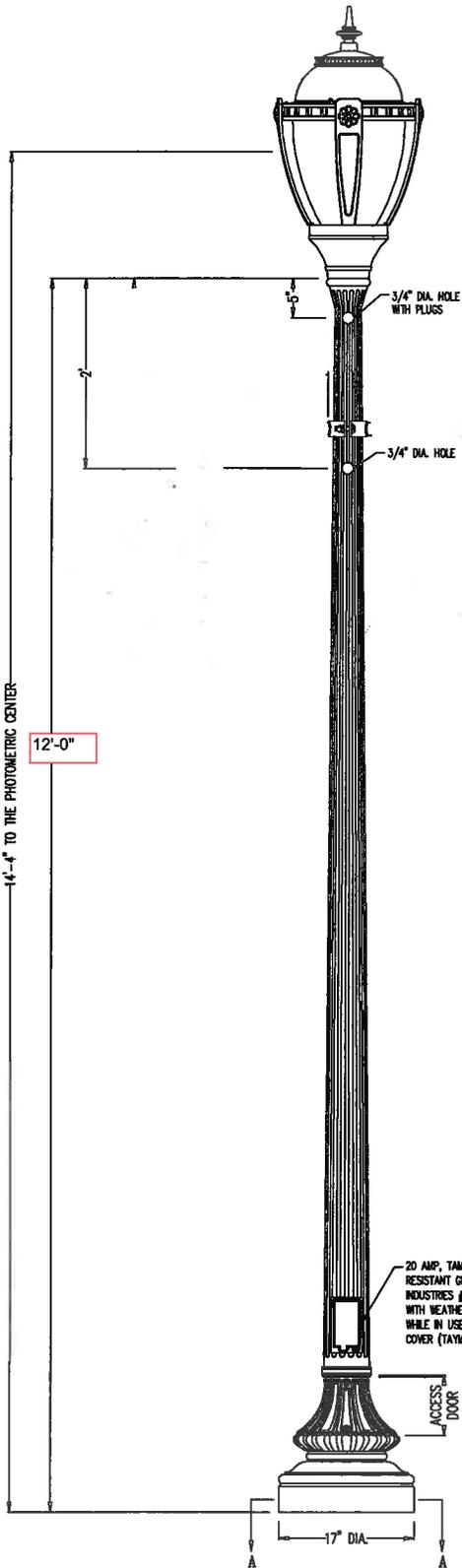
Rev. A

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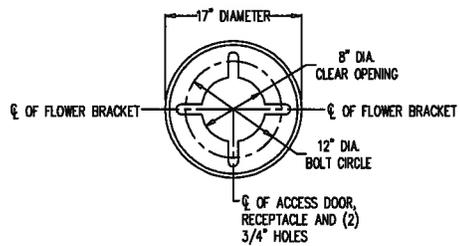


LUMINAIRE SPECIFICATIONS

STYLE: FRANKLIN SQUARE
 HEIGHT: 34 3/8"
 WIDTH: 19"
 MATERIAL: CAST ALUMINUM ALLOY A.N.S.I. 356, PER A.S.T.M. B26-95
 FINISH: POWDER COAT - TO MATCH PIEDMONT GREEN (RAL# 7016)
 LAMPING: PLEASE SELECT WATTAGE
 VOLTAGE: ELECTRONICALLY WIRED AT 120-277 VOLTS
 COLOR TEMPERATURE: PLEASE SELECT COLOR TEMPERATURE
 DISTRIBUTION: TYPE **V** (ASYMMETRIC DISTRIBUTION) **TYPE V**
 GLOBE: KEY SLOT FROSTED
 MODIFIER: CHRISTOPHER COLUMBUS FITTER
 CATALOG NO.: ALMFKS-W20-LE___/EVX/X2-___CR3-YKSF-FAH-DJ

LAMP POST SPECIFICATIONS

STYLE: WASHINGTON PEDESTRIAN WITH DC TOP
 HEIGHT: 13'-0"
 PHOTOMETRIC CENTER: 14'-4"
 BASE: 17" DIAMETER
 MATERIAL: 1 PIECE, CAST DUCTILE IRON PER A536-84 GRADE 65-45-12
 FINISH: POWDER COAT - TO MATCH PIEDMONT GREEN (RAL# 7016)
 ACCESS DOOR: LOCATED IN BASE SECURED WITH TAMPER PROOF HEX SOCKET SECURITY MACHINE SCREWS
 GROUND PROVISIONS: DRILL AND TAP BASE OPPOSITE ACCESS DOOR TO ACCOMMODATE A 1/4"-20 GROUND STUD (STUD SUPPLIED BY OTHERS)
 ANCHOR BOLTS: (4) 3/4" DIA. X 24" LONG + 3" HOOK (FULLY GALVANIZED WITH 1 GALVANIZED NUT AND 1 GALVANIZED WASHER PER BOLT)
 BOLT PROJECTION: 3" REQUIRED
 TENON: 3 1/2" DIA. X 3" HIGH (TO ACCEPT LUMINAIRE)
 CATALOG NO.: DPSWSH-17-13.00-DC-TN3.50/3.00-GFW-(2)FB-CU



SECTION A-A
 BASE PLATE DETAIL

 Spring City Electrical Mfg. Co. HALL AND MAIN STREETS - P.O. BOX 19 - SPRING CITY, PA. 19475 PHONE (610) 948-4000 - FAX (610) 948-5377 - WWW.SPRINGCITY.COM			
DESCRIPTION	THE DUCTILE IRON WASHINGTON 13'-0" LAMP POST AND THE FRANKLIN SQUARE LED LUMINAIRE		
CUSTOMER	PIEDMONT COMMUNITY HALL COURTYARD - CA		
SCALE	DRAWN BY:	DATE	DRAWING NO.
N.T.S.	T.E.B.	10-13-2017	S103635

LUM SERIES-PLED

w/ POLE RATED FOR 100MPH SHAFT

SPECIFICATIONS

FIXTURE HOUSING

Heavy cast low copper aluminum assembly (A360 alloy, <0.4% copper). Housing attaches to pole via a one piece, extruded aluminum arm with centering guides for internal draw bolts. Housing/pole junction is gasketed. All exposed hardware is stainless steel. Internal protected hardware is electro-zinc plated.

ARM MOUNTING

One piece heavy wall extruded aluminum with internal draw bolt guides. Arm is secured to housing and pole with stainless steel draw bolts.

PLED™ OPTICS

Emitters (LED's) are arrayed on a metal core PCB panel with each emitter located on a copper thermal transfer pad and enclosed by an LED refractor. A micro-reflector inside the refractor re-directs the house side emitter output towards the street side and functions as a house side shielding element. Refractors are injection molded H12 acrylic. Each LED refractor is sealed to the PCB over an emitter and all refractors are retained by an aluminum frame. Any one Panel, or group of Panels in a luminaire, have the same optical pattern. LED refractors produce **Type III** and **Type IV** site/area distributions. Panels are field replaceable and field rotatable in 90° increments. LED's are 4000K CCT.

LED DRIVERS

Drivers are UL and cUL recognized mounted on a single plate and factory prewired with quick-disconnect plugs. Constant current driver is electronic and has a power factor of >0.90 and a minimum operating temperature of -40°F. In-line terminal blocks facilitate wiring between the driver and optical arrays. Drivers accept an input of 120-277V, 50/60Hz. (0 - 10V dimmable driver is standard. Driver has a minimum of 3KV internal surge protection.)

POLE SHAFT

4" or 5" square, fabricated from high grade structural steel tube. Shaft conforms to ASTM-A-501 - 68 specifications. Meets or exceeds minimum yield strength of 46,000 p.s.i. Wall thickness 11 Ga. (.120 wall). Reinforced hand hole is furnished with cover, shaft is furnished with ground lug located inside pole on wall opposite hand hole.

BASE PLATE

Fabricated from structural quality hot rolled steel. Meets or exceeds minimum yield strength of 36,000 p.s.i. base telescopes and is circumferentially welded to pole shaft. Slotted bolt holes provide 1" flexibility on either side of bolt circle centerline.

ANCHORAGE

(4) anchor bolts fabricated from hot rolled steel bar, minimum yield strength of 50,000 p.s.i. bolts have "L" bend on one end and are threaded on the other end. Bolts are fully galvanized and are furnished with two nuts and two washers.

BASE COVER

Fabricated from heavy gauge quality carbon steel. Two piece cover conceals base.

FINISH (Applies to Luminaire and Pole)

Electrostatically applied TGIC Polyester Powder Coat on substrate prepared with 20 PSI power wash at 140°F. Four step sand blast and iron phosphate pretreatment for protection and paint adhesion. 400°F bake for maximum hardness and durability. Smooth finish is standard.

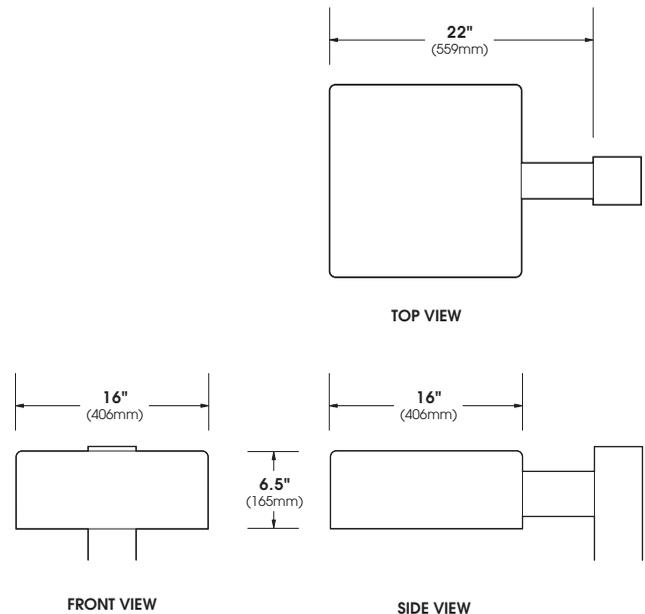
PROJECT NAME: _____

FIXTURE TYPE: _____



LUM PLED

PATENT PENDING

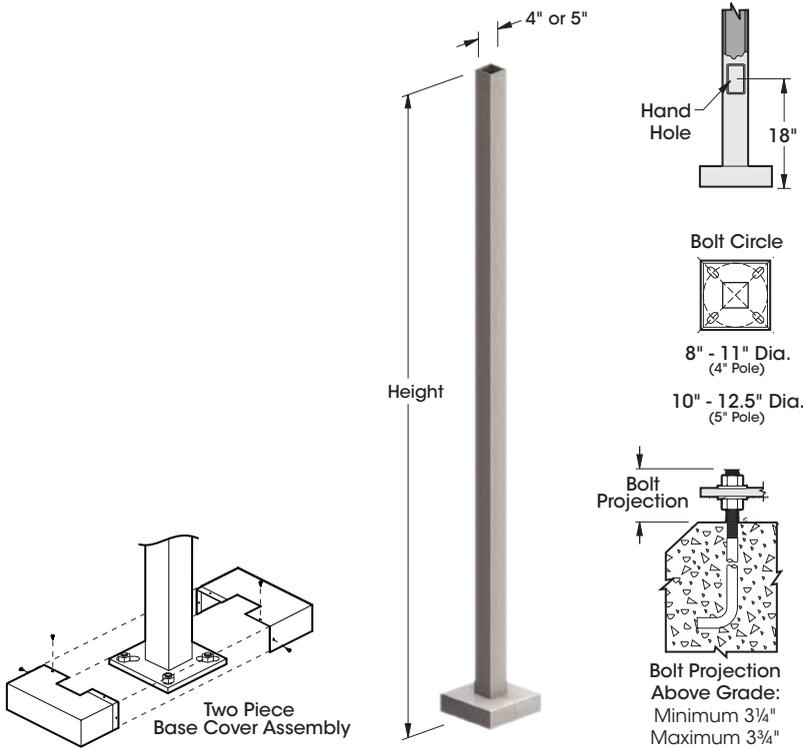


LUM SERIES - PLED

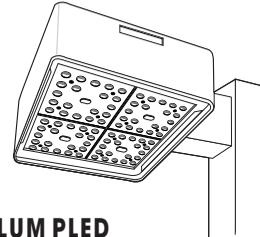
100 MPH PROMOTION

SPECIFICATIONS

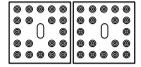
POLE



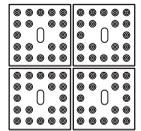
PLED™ MODULES



LUM PLED
E.P.A. = 1.12
Available in:
80 & 40 LED Array



40 LED Array



80 LED Array

No. of LEDs	Drive Current	System Watts	HID Equivalent
40	700mA	91	175
	1050mA	142	200 - 250
80	700mA	184	400

SPEC / ORDERING INFORMATION

POLE	LUMINAIRE/POLE CATALOG #	OPTIONS
15'0"- 4" Sq - 11Ga EQUIVALENT TO 175W HID 40LED @ 700mA (100MPH)	SINGLE SINGLE TWIN 180° TWIN 180°	<input type="checkbox"/> SNTS-154-11/1/LUM-LED/4070/PLED-III/DBM <input type="checkbox"/> SNTS-154-11/1/LUM-LED/4070/PLED-IV/DBM <input type="checkbox"/> SNTS-154-11/2/LUM-LED/4070/PLED-III/DBM <input type="checkbox"/> SNTS-154-11/2/LUM-LED/4070/PLED-IV/DBM <input type="checkbox"/> SURGE PROTECTOR SP <input type="checkbox"/> HOUSE SIDE SHIELD HS-PLED <input type="checkbox"/> UNIVERSAL POLE ADAPTOR UPA
20'0"- 4" Sq - 11Ga EQUIVALENT TO 250W HID 40LED @ 1050mA (100MPH)	SINGLE SINGLE TWIN 180° TWIN 180°	<input type="checkbox"/> SNTS-204-11/1/LUM-LED/4010/PLED-III/DBM <input type="checkbox"/> SNTS-204-11/1/LUM-LED/4010/PLED-IV/DBM <input type="checkbox"/> SNTS-204-11/2/LUM-LED/4010/PLED-III/DBM <input type="checkbox"/> SNTS-204-11/2/LUM-LED/4010/PLED-IV/DBM
20'0"- 4" Sq - 11Ga EQUIVALENT TO 400W HID 80LED @ 700mA (100MPH)	SINGLE TWIN 180° SINGLE TWIN 180°	<input type="checkbox"/> SNTS-204-11/1/LUM-LED/8070/PLED-III/DBM <input type="checkbox"/> SNTS-204-11/2/LUM-LED/8070/PLED-III/DBM <input type="checkbox"/> SNTS-204-11/1/LUM-LED/8070/PLED-IV/DBM <input type="checkbox"/> SNTS-204-11/2/LUM-LED/8070/PLED-IV/DBM
25'0"- 4" Sq - 11Ga EQUIVALENT TO 400W HID 80LED @ 700mA (100MPH)	SINGLE SINGLE TWIN 180° TWIN 180°	<input type="checkbox"/> SNTS-254-11/1/LUM-LED/8070/PLED-III/DBM <input type="checkbox"/> SNTS-254-11/1/LUM-LED/8070/PLED-IV/DBM <input type="checkbox"/> SNTS-254-11/2/LUM-LED/8070/PLED-III/DBM <input type="checkbox"/> SNTS-254-11/2/LUM-LED/8070/PLED-IV/DBM
30'0"- 5" Sq - 11Ga EQUIVALENT TO 400W HID 80LED @ 700mA (100MPH)	SINGLE SINGLE TWIN 180° TWIN 180°	<input type="checkbox"/> SNTS-305-11/1/LUM-LED/8070/PLED-III/DBM <input type="checkbox"/> SNTS-305-11/1/LUM-LED/8070/PLED-IV/DBM <input type="checkbox"/> SNTS-305-11/2/LUM-LED/8070/PLED-III/DBM <input type="checkbox"/> SNTS-305-11/2/LUM-LED/8070/PLED-IV/DBM

LUM SERIES - PLED LAMP/ELECTRICAL GUIDE - 100MPH PROMOTION

LED COUNT	SOURCE TYPE	SOURCE	INITIAL LUMENS - 4000K	INITIAL LUMENS - 3000K	INITIAL LUMENS - 5000K	L70 GREATER THAN (HR)	STARTING TEMP.	SYSTEM WATTS	VOLTS	MAX INPUT AMPS
40	LED	40 PLED® Optical Module - 700mA	8,425 - 9,067	7,376 - 7,938	8,627 - 9,285	60,000+	-20°F	91	120 277	0.76 0.33
40	LED	40 PLED® Optical Module - 1050mA	10,956 - 11,726	9,592 - 10,324	11,219 - 12,075	60,000+	-20°F	142	120 277	1.19 0.52
80	LED	80 PLED® Optical Module - 700mA	16,851 - 18,139	14,752 - 15,877	17,254 - 18,570	60,000+	-20°F	184	120 277	1.54 0.67

NOTES:

1. Max Input Amps is the highest of starting, operating, or open circuit currents
2. Lumen values for LED Modules vary according to the distribution type
3. System Watts includes the source watts and all driver components.
4. Fuse value should be sufficient to protect all wiring components. For electronic driver and LED component protection, use 10KV - 20KV surge suppressors.
5. L70(9K) - TM-21 6x rule applied

WARNING: All fixtures must be installed in accordance with local codes or the National Electrical Code. Failure to do so may result in serious personal injury.

CA-PHS09m1
 PIEDMONT HIGH SCHOOL
 CROWN CASTLE PROJECT NO.
 VZ56040



PREPARED BY
Coastal Communications
 Telecommunications Engineering
 5811 EDWARDS PLACE, SUITE 200
 SAN JOSE, CA 95131
 PHONE: (408) 925-0910
 www.coastalcomms.com

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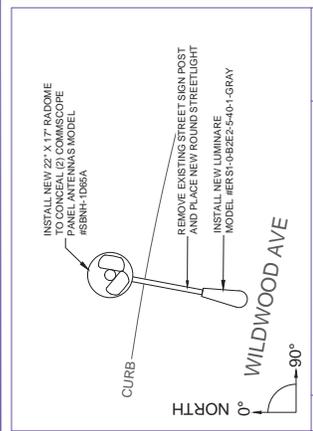
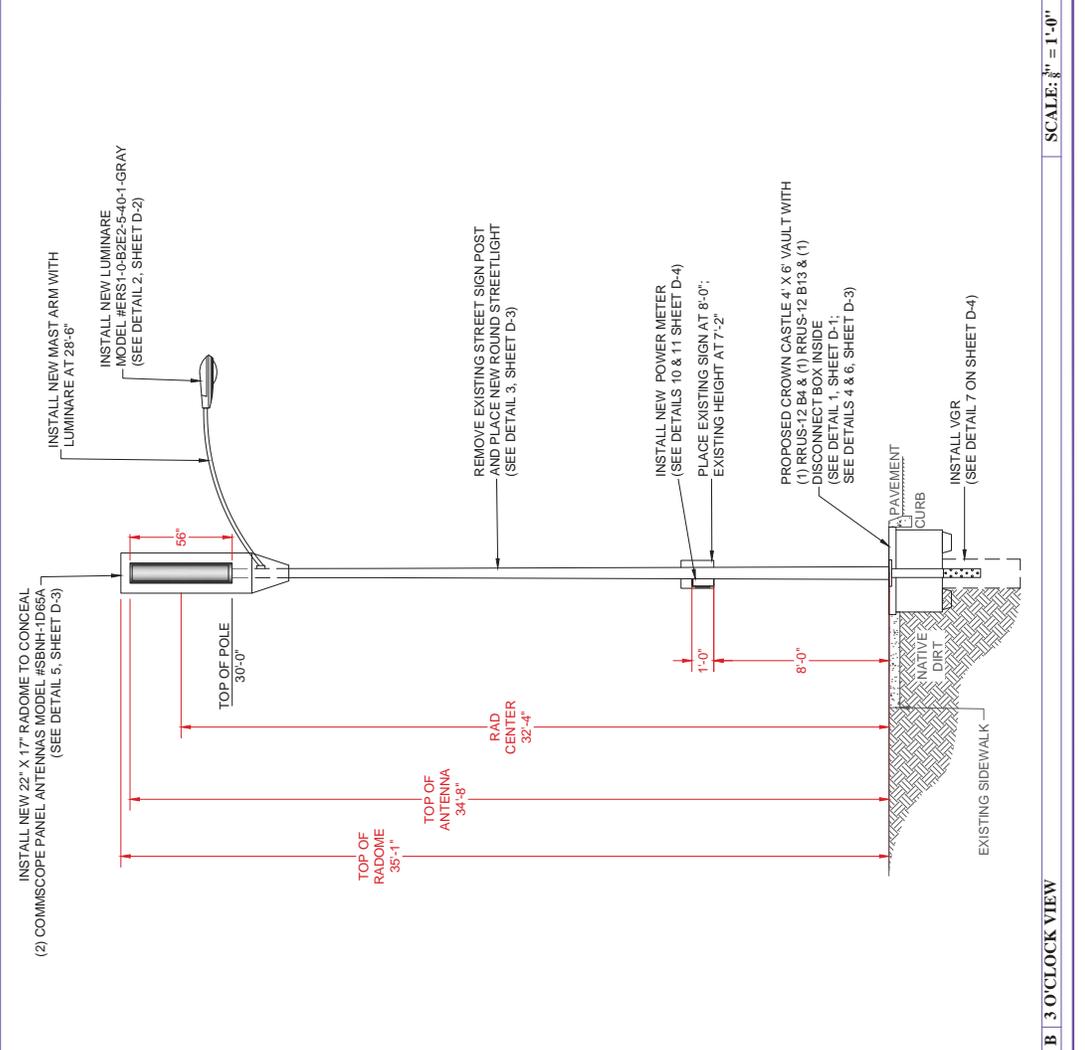


REVISION	DATE
CHANGED SHEET PLAN	01/17/16
ADDED SCALE TO ALL SHEETS	01/26/17
ADDED SHEET PLAN	01/26/17
ADDED SURVEY	01/26/17
REVISED POLE SHUT	04/04/17
UPDATED SURVEY	04/05/17
CITY REVISIONS	05/16/17
REVISION ISSUE	

ATTORNEY GENERAL'S ADDRESS
 ADDRESS FROM
 314 WILDWOOD AVE
 PIEDMONT, CA
 (510) 438-4300

NO.	DATE	DESCRIPTION
1	11/07/16	GD

PROJECT NUMBER: **SP-2**



A TOP VIEW N.T.S.

CROWN CASTLE TO INSTALL THE FOLLOWING:

- REMOVE EXISTING CITY STREET SIGN POST AND INSTALL NEW STEEL STREET LIGHT POLE WITH NEW MAST & LUMINAIRE.
- TRANSFER EXISTING CITY STREET SIGN AT 8'-0" ON NEW STREET LIGHT POLE.
- INSTALL 4' X 6' VAULT WITH (1) RRUS-12 B4 & (1) RRUS-12 B13 & (1) DISCONNECT BOX INSIDE.
- NEW (2) 56" TOP POLE MOUNT PANEL ANTENNAS WITH ELECTRICAL TILT. MANUFACTURER: COMMSCOPE MODEL: SBNH-1D65A
- INSTALL NEW (1) POWER METER ON STREET LIGHT.
- INSTALL VGR.

ANTENNA & EQUIPMENT NOTE:

- MATERIALS AND FINISH WILL BE DURABLE AND NON-REFLECTIVE AND WILL MINIMIZE THE POTENTIAL VISUAL IMPACTS.
- EQUIPMENT TO BE PAINTED TO MATCH AND TO SATISFACTION OF CITY ENGINEERING STAFF.

POLE ID: N/A
 PROPOSED TOP OF POLE AT 30'-0"
 TOP OF ANTENNA: 34'-8"
 RAD CENTER: 32'-4"
 AZIMUTHS: 100° & 220°

PROJECT DESCRIPTION

B 3 O'CLOCK VIEW

June 1 2017

Ms. Pierce Macdonald-Powell
City of Piedmont
120 Vista Avenue
Piedmont CA 94611

Subject: Tree assessment
Crown Castle Wireless Telecommunications

Dear Ms. Macdonald-Powell:

Crown Castle NG West LLC, a wireless telecommunications company, is planning to install nine (9) new telecommunications facilities at various sites in Piedmont. Four (4) of the sites are in close proximity to City street trees. Based on that preliminary assessment, the City of Piedmont requested that I review project plans and associated reports for the four sites, then meet with you in the field to discuss potential impacts to street trees. We met on May 15 and examined the four sites. This letter summarizes my observations and assessment.

To assist in my assessment, you provided plans as well as reports prepared by Crown Castle's arborist.

Overview

The proposed new antenna installations would either use existing city street lights or power poles, or install new ones. An underground vault would be installed adjacent to each light and pole. Excavation for the vault would be approximately 7 feet long by 5 feet wide by 4 feet deep. In addition, however, each vault has two exhaust vents, located on either end of the 7 foot side. Vents are separated from the vault by an undetermined distance. Both vents and the conduit connecting them to the vault will require additional excavation. Although the vaults are noted as being 6 feet by 4 feet, they are depicted on plan sheets as being a total of 10 feet by 6 feet.

In some cases, a new pole will be installed. This will replace an existing wood pole which would be removed.

Potential impacts to City street trees are associated with 1) excavation for the vault and 2) installation of a new light or pole. Excavation for the vault may sever roots. Equipment working in close proximity to trees may damage trunks and require pruning of tree crowns to provide clearance. New poles must be lifted from a horizontal to vertical position which may also damage tree trunks and require remedial pruning if branches are damaged.

HortScience has over 25 years of experience assisting the City of Piedmont with maintenance of street trees and other City-owned trees. The Community of Piedmont has a long history of investment in its street trees, which is evident today in its tree-lined streets and the symmetry, maturity, and consistency of its street trees. This is a defining feature of the City and distinguishes it from neighboring cities.

1159 Winsor Avenue (CA-PHS08)

At this site, a new underground vault and pole would be installed between two trees (Photo 1, following page). One is a Canary Island date palm (*Phoenix canariensis*); the other is a red horsechestnut (*Aesculus carnea*). Both are located in the 18-inch wide planting strip between curb and sidewalk. The trees are approximately 21 feet apart.

The Canary Island date palm is mature in development with approximately 22 feet of clear (brown) trunk and an overall height of 30 feet. The base of the trunk has overgrown the adjacent pavement. Numerous utility wires are adjacent to the crown including low voltage electrical conductors. Overall tree condition is good.

Photo 1. Winsor Avenue. Canary Island date palm is on the left. Red horsechestnut on the right. Red line is the approximate location of the new pole. Note guy wire near the horsechestnut.



The red horsechestnut is semi-mature in development with a trunk diameter of 5 inches. Overall condition is good. The canopy is somewhat one-sided to the west due to competition with nearby oak trees.

The existing utility pole is located approximately 5 feet 6 inches from the palm. The pole is supported by a guy wire that enters the ground, approximately 3 feet 6 inches from the horsechestnut.

As proposed, the existing pole will be replaced by the new 45-foot-tall pole, midway between the trees. The new pole will be installed in the 18-inch planting strip. The new underground vault would be placed within the existing 5-foot sidewalk. Excavation of the vault and associated vents is constrained by the presence of the existing pole, guy wire and two trees. Construction of the proposed installation would require pruning on the west side of the canopy of the red horsechestnut to provide clearance for materials and equipment.

Several aspects of installation are not clearly defined in the proposed plans. The base of the existing wood pole would be left in place, but the sequence of removing the pole and guy wire, then excavating the new vault and its installation is unclear. I don't know if the new pole will require a guy wire. It is likely that additional clearance pruning of trees on or adjacent to the street will occur. It is also likely that roots greater than 2 inches in diameter will be encountered in the area of excavation near the horsechestnut.

In summary, impacts to the date palm and horsechestnut from the proposed project should be within the tolerance of both trees because the existing trees are in good condition and because the project design centers the new pole and vault mid-way between the trees.

Potential impacts to nearby street trees include damage during construction in the right-of-way related to the limited street width and limited access. This part of Winsor Avenue is a shallow cul-de-sac, leading to a Piedmont Unified School District driveway. The key to successful preservation will be obtaining access for construction from the School District to use the driveway during construction, as well as protecting tree trunks from damage by equipment (see **Tree Protection Guidelines**).

799 Magnolia Avenue (CA-PHS03)

At this site, the existing light pole will be replaced with a new pole. The associated underground vault will be installed in the existing sidewalk behind the pole.

An 18-inch-diameter mature sweetgum (*Liquidambar styraciflua*) is located 21 feet west of the existing pole (Photo 2). Tree health is good while structural condition is fair. As is typical of many sweetgums, several scaffold limbs arise at 18 feet. These lean and bow away from the central leader. The tree has previously been root-pruned on the curb side.

Photo 2. Looking across Magnolia Ave. at project site.

The proposed street light would be located in the same location as the existing which is at the edge of the dripline of the sweetgum. The proposed underground vault would be located within 15 feet of the sweetgum, within the dripline of the tree.

Impacts from installation of the vault will include pruning the canopy to provide clearance and root severance to install the vault. I expect impacts to be within the tolerance of the tree because the tree condition is good, the new vault would be 15 feet from the trunk of the sweetgum, and significant roots (greater than 2 inches in diameter) are not expected to be found in the area of excavation.

428 El Cerrito Avenue (CA-PHS06)

The project area is on the west side of El Cerrito Avenue near the intersection with Jerome Avenue. As proposed, the existing utility pole will be replaced. The proposed new vault would extend from the pole to within 2 feet from the existing water gum (*Tristanopsis laurina*) tree (Photo 3).

Photo 3. Looking west across El Cerrito. The new pole will be replaced in the same location.

The 9-inch-diameter water gum is located in a 12-inch by 12-inch pavement cutout. The adjacent sidewalk panel is displaced. The canopy is full and dense and the tree is mature and established. The main trunk is sinuous in form, bowed to the south towards the existing pole.

Impacts to the water gum tree would be severe. Excavation for the proposed vault would damage major roots. Installation of the vault would also require pruning a significant part of the canopy on the south side for construction clearance. The result will be an asymmetric form with almost all of the foliage on the north side of the tree and a severely compromised root zone.

In my view, the water gum tree would not survive the impacts from construction of the proposed design. Furthermore, it cannot be replaced in its current location. Moving the tree to the north even 2 feet would place it within 5 feet of a driveway, creating a possible sightline issue. A new tree would have to be installed farther north (or elsewhere in the City) due to the proposed new vault and the limited space in the right-of-way. See **Estimate of Value**, below, for information regarding the reproduction value of the tree, as well as its value in the streetscape along El Cerrito Avenue.

355 Jerome Avenue (CA-PHS07)

An existing power pole is located 5 feet from a 13-inch diameter London plane (*Platanus x hispanica*) at this location (Photo 4). The new pole would replace this one and will be 7 feet from the tree. A second London plane (12-inch-diameter) is located 21 feet to the north of the existing pole.

Photo 4. A 13-inch diameter London plane is located 5 feet south of the existing pole. A 12-inch diameter London plane is to the north (right side of photo). Red line is approximate location of the new pole.



Both trees are located below existing energized conductors and have been pruned to provide clearance to them. Overall condition is good for both trees, which are mature and well-established. Both have multiple branches that arise at 10 feet to 12 feet. Proposed construction and excavation would occur within the driplines of both trees.

The existing pole would be replaced by a new 60-foot pole, midway between the trees. Final height of the antenna will be just over 53 feet with 7 feet of the pole installed in the ground. The proposed new pole and associated vault would be placed within the existing 5-foot sidewalk. As depicted on sheet LP-01, the vault plus fans would be 10 feet by 6 feet. Proposed construction would require clearance pruning of the canopy of the 13-inch diameter London plane.

It is not clear in the plans how the proposed new pole is to be installed and whether doing so will require additional pruning for clearance.

In summary, impacts to the two London planes should be within the tolerance of both trees because the condition of the trees is good and major roots (roots greater than 2 inches in diameter) are not expected to be found in the area of excavation. The keys to successful preservation are 1) protecting tree trunks from damage by equipment (see **Tree Protection Guidelines**) and 2) minimizing root severance.

Estimate of Value

The City of Piedmont requested that an estimate of tree value be established for each of the trees within the four project areas. I employed the standard methods found in **Guide for Plant Appraisal**, 9th edition (published in 2000 by the International Society of Arboriculture, Savoy IL). In addition, I referred to **Species Classification and Group Assignment** (2004), a publication of the Western Chapter of the International Society of Arboriculture. These two documents outline the trunk formula method which estimates a depreciated reproduction cost.

The value of landscape trees, such as street trees, is based upon four factors: size, species, condition and location. Size is measured as trunk diameter, normally 54 inches above grade. The species factor considers the adaptability and appropriateness of the plant in the East Bay area. The **Species Classification and Group Assignment** table lists recommended species ratings and evaluations. Condition reflects the health and structural integrity of the individual tree. The location factor considers the site, placement and contribution of the tree in its surrounding landscape. All of the trees examined are City street trees, providing shade, privacy, aesthetic, and screening benefits to both the adjacent properties and the City.

Based on my assessment, the estimated values of the subject trees are as follows:

Location	Species	Trunk Diameter (in.)	Estimated Reproduction Cost
1159 Winsor	Canary Island date palm	22' clear trunk	\$10,800
1159 Winsor	Red horsechestnut	5	\$650
799 Magnolia	Sweetgum	18	\$4,150
El Cerrito	Water gum	9	\$1,400
355 Jerome	London plane	13	\$2,100
355 Jerome	London plane	12	\$1,800
Total			\$20,900

Tree Protection Guidelines

1. The demolition contractor shall meet with the City's Landscape Superintendent before beginning work to discuss work procedures and tree protection.
2. Fence trees to be retained prior to demolition, grubbing or grading. Fences may not be relocated or removed without permission of the City's Landscape Superintendent. Fencing shall be installed at the edge of the existing planting space or 2 feet back from the edge of excavation, whichever is larger.

The **TREE PROTECTION ZONE** shall be defined by the limit of protective fencing (Photo at right).

For the Canary Island date palm, stack and secure hay bales around the trunk to a height of 8 feet as an alternative to fencing.
3. Damage to tree(s) or unauthorized removal is subject to replacement or fine equal to the estimated value of the tree.
4. No materials, equipment, vehicles, spoil, waste or wash-out water may be deposited, stored, or parked within the **TREE PROTECTION ZONE**.

5. Demolition of existing improvement such as pavement shall use appropriate size equipment to perform the task and protect the tree from damage. Equipment shall be sited outside the **TREE PROTECTION ZONE**. Pull spoil and debris away from the trees. If necessary, tie back branches and wrap trunks with protective materials to protect from injury as directed by the City's Landscape Superintendent.
6. Excavation shall not tear or rip tree roots 2 inches or greater in diameter. As the operator encounters tree roots, excavation should stop while the root is exposed by hand and cut cleanly at the edge of excavation.
7. Demolition personnel shall not prune trees to provide clearance. If pruning is needed, a qualified arborist shall perform the task at the direction of the City's Landscape Superintendent. All pruning shall be completed by a Certified Arborist or Tree Worker and adhere to the latest editions of the ANSI Z133 and A300 Standards.

Summary

I evaluated the possible impact to City street trees of installing proposed new wireless telecommunications facilities at four sites in Piedmont. Each site would have an underground vault and above-grade pole installed. Impacts will primarily involve root severance and crown pruning. Impacts to trees vary with the proximity of the proposed improvements (vaults, proposed poles and lights, etc.) to the tree roots and canopies. In the case of the water gum on El Cerrito, proposed construction and excavation impacts would be beyond the tolerance of the tree.

Impacts to trees at the remaining three sites should be within their tolerance, providing that the recommended **Tree Protection Guidelines** are followed. It is possible that trees may be injured due to unanticipated impacts from construction.

It is not clear in the proposed project plans how the new poles, which are taller than existing, will be installed or what impacts, such as clearance pruning, could be anticipated to City street trees from construction materials and equipment.

Sincerely,

James R. Clark, Ph.D.
Vice President

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ATTACHMENT E

GENERAL PLAN POLICIES AND ACTIONS FOR PARKS

City of Piedmont General Plan goals, policies, programs, and actions, related to street trees, which may be used for reference, are included below. General Plan goals, policies, programs and actions are listed in detail in Exhibit E to this staff report.

The Piedmont General Plan includes policies and actions intended to preserve the residential character of the community. General Plan policies and actions related to the current proposal include the following:

Goal 27: City Identity and Aesthetics - Ensure that streets, parks, civic buildings, and other aspects of the “public realm” contribute to Piedmont’s overall identity, beauty and visual quality.

Policy 27.1: Streets as Public Space

Recognize that streets are important public spaces as well as transportation routes. Sidewalks, street trees, landscaping, and other amenities should be provided and maintained to keep these spaces attractive.

Policy 27.2: Sidewalks and Planting Strips

Manage sidewalk space and planting strips along Piedmont streets to promote pedestrian safety and comfort, enhance visual character, and reduce the impact of vehicle traffic on adjacent yards.

Policy 27.10: Design Continuity

Apply consistent standards for pavement, signage, street furniture (benches, planters, trash receptacles, bus shelters, etc.), and other elements of public space to help unify the city and strengthen Piedmont’s identity.

Design and Preservation Goal 31: Historic Preservation - Identify, preserve, and maintain Piedmont’s cultural and historic resources and recognize these resources as an essential part of the city’s character and heritage.

Policy 31.6: Historic Landscapes

Preserve important historic landscape features, including parks, landscaped traffic islands, and neighborhood entry pillars dating back to Piedmont’s early subdivisions. Ensure that new public works such as street lights, street furniture, and sidewalks are compatible with the historic context of Piedmont’s neighborhoods.

Community Services and Facilities Element Goal 37: Infrastructure -

Provide water, sewer, storm drainage, energy, and telecommunication services in the most efficient, cost-effective, and environmentally sound manner possible.

Policy 37.4: Siting and Design of Infrastructure

Ensure that the siting and design of infrastructure facilities, including water tanks and telecommunication towers, mitigates the potential for adverse visual impacts and is consistent with policies in the Design and Preservation Element.

Item #1 – Crown Castle Small Cell Applications
Correspondence received before 5:00 p.m. on Wednesday, October 25th

I would like to voice my opposition to the cell towers proposed for town. Do not allow these to go in!

Wendy Jordan

Dear Mayor McBain and City Council members,
 Mayor McBain, at the last City Council meeting on 10/16/17, you asked a very valid question: "What are we going to do (if no additional cell antennas are installed in Piedmont)?" I thought this needed an answer, so I consulted with Sherk Chung whose graduate degree from MIT is in RF technologies. I asked "What about driverless cars? What about smart homes? What about streaming?" Here are his answers:

- Driverless cars run autonomously -- they do not require cell antennas.
- Smart homes are run completely on DSL or cable wi-fi; they do not require cell antennas.
- Streaming at home also runs on wi-fi at home and does not require cell antennas.
- GPS doesn't require cell antennas.
- Our schools also use wired or wireless internet for computer needs, including any streaming; there is no need for cell antennas for this function.
- In a fire, power to small cells would likely be lost, rendering them useless even if the cell equipment itself survived. That was confirmed when Jason Osborne said 77 antennas burned in the Northern California fire and did not function. We will be relying on existing 3G and 4G macro towers outside the burn zone. Stephen Kozinchik's letter (to be sent this week) elaborates on this issue.
- As we all know, and as was confirmed by Jason Osborne in his testimony on 10-16-17, there is no significant gap in coverage for calls and texts in Piedmont, and Sherk Chung explained in his letter dated 10-13-17 why we have good coverage already in Piedmont.

The only service these antennas provide is for students at our schools to stream on their phones at lunch or recess. The Piedmont Middle School Handbook states:

"Students are not allowed to use electronic devices or cell phones, including text messaging, on school grounds, during the entire school day."

In addition, as you know, the School Board has already written you a letter saying they oppose these antennas.

Are we really considering ruining our views, the aesthetics of Piedmont, over-riding the noise ordinance, reducing property values and barring the access for EMS-disabled residents to their own homes for the hypothetical need for high school students streaming during lunch and recess when our own School Board has opposed these applications? This is what Sherk was referring to in his letter dated 10/13/17 when he said the antennas would be for a "non-essential function." In addition, Sherk will send an email clarifying why Piedmont's data needs are and will be met by better means than additional cell antennas.

This is a fabrication of a problem by Crown Castle that doesn't exist. Let's all be done with this exercise of considering applications for service no one needs or wants. All nine of them should be declined.

Thank you,
Shary Nunan

City Council Members,

Thank you for your rejection of the five proposed sites in last week's meeting. I applaud your show of concern for the citizens of Piedmont...our property values, our kids, our environment, and our health.

Going forward, I'd like you all to consider some of the lesser discussed issues that could come up were any of the remaining towers to be approved in their current locations...the unintended consequences.

The Wildwood at Prospect location seems particularly obtrusive and poorly located. Imagine the families living in close proximity suing the city for the inevitable drop in their property values.

Also, consider the possibility of a number of Wildwood families choosing not to risk the daily, weekly, exposure to their children over the course of years and insisting on transfers to Havens or Beach. Eight families did transfer at the thought of being bused to Emeryville for a single school year so it's not a far-fetched idea.

I teach Art 3 days a week at Wildwood in the after school enrichment program and the demand is great. Due to the cancer in my family, I would have to consider cutting back on days which would negatively impact the students.

In addition, as a dog owner/walker, I would be forced to avoid the only dog walk area near my home...a forested, no fumes, off leash run for walking and musing. The entrance to that dog run would feel like an unhealthy place to meet my friends, hang out, or even pass through with my dogs.

Please, I ask you to think beyond this single vote. These towers would simply make Piedmont a much less desirable place to live.

There can be no compromise with Crown Castle. There is no evidence that schools and neighborhoods are "safe" places for cell tower radiation when we just don't know the long term effects on our children. Would you want a tower in front of your home?

So to keep our community safe, please vote no on all remaining cell tower sites.

Sincerely,
Suzie Skugstad

By: Lionel Chan
Re: Planning Suggestions

After observing the struggle that the City of Piedmont has experienced and knowing that even if Crown Castle fails this time, it and all other cell phone service providers will make many more attempts to introduce microwave antennas into Piedmont. This is just the beginning. Therefore, I suggest that the Council direct the staff to review the current application standards and procedures. I offer the following suggestions to improve city code DIVISION 17.46 WIRELESS COMMUNICATION FACILITIES.

1. **Application: Coverage** (see Sec. 17.46.050B).

- a. **Verifiable Evidence**. Require all applications to include independently verifiable proof of a significant gap in service coverage for cell phone voice and texting usage. This should be posted on the City's website to invite feedback from the public at large.
- b. **Subscribers**. Require all applications to state the number of subscribers within the last 30 days. This is relevant to determining the probable load on the applicant's network in an emergency, recognizing that when used by the applicant, "cell phone users" are not all Piedmont cell phone users, but only the applicant's subscribers, and most of them will have access to landline telephone service and wired/cable Internet in an emergency.
- c. **Trees**. Specify the distance of any proposed antenna to the nearest tree branch. Prohibit the placement of antennas near tree branches unless the applicant can prove that the RF radiation level is below the FCC maximum permissible limit near the tree branches. An arborist should be retained to do a baseline assessment of the conditions of nearby trees so damage to the trees can be determined. Tree damage should be a condition for removal of the antenna.

In the Crown Castle applications, PHS03 (799 Magnolia by the community pool and high school) and PHS04 (740 Magnolia by the pool and middle school) the antennas will be in tree canopies where the RF radiation within a half yard is reported to be 2100% of the FCC limit, which then, under the FCC rules, gives the city to right to prohibit those locations for antennas. PHS01 (Highland) and PHS09 (Wildwood and Requa, 2nd antenna) propose antennas which exceed the FCC limit by 2100%, and its closeness to, and impact on, trees isn't clear from the submitted application and plans.

2. **Application: Least Intrusive Means** (see Sec. 17.46.050B). Require all applications to include evidence that its proposed project to close the gap is necessary and the least intrusive means, including comparison with the following means by which to close the gap: (a) collocating on existing antenna sites, and (b) using multiple smaller low-powered antennas. Increased project cost to the applicant should not be a concern of the city.

3. **Independent Technical Review** (see Sec. 17.46.060). Require that the City will retain an independent technical expert

- a. to review materials submitted by the applicant and
- b. to provide an analysis of issues including but not limited to:
 - 1) whether the wireless communication facility meets the applicable radio frequency emission regulations;
 - 2) whether a significant gap in coverage or capacity exists and
 - 3) whether the proposed facilities are the least intrusive means of doing so;
 - 4) whether there are alternative sites and the feasibility of those sites;
 - 5) whether there are ways to mitigate aesthetic impacts; and
 - 6) any other specific technical issues designated by the City.

This provision is already in the City code, but is discretionary rather than mandatory. It should be mandatory so that the Council will have independent expert guidance on these issues, and it will be clearer to applicants what issues are important to the City.

The independent expert should make actual physical RF measurements, not hypothetical calculations, on the actual antennas proposed to determine that the radiation levels on (a) humans in the living area, and (b) tree branches near the antennas, do not exceed the FCC maximum permissible exposure level. The applicant should not have the power to trim city trees.

4. **Development Standards: Disaster Preparedness** (see Sec. 17.46.070A).

a. Antennas should be constructed and located to prevent damage in the event of fire and earthquake (of magnitude 7.0), The prediction for the next Hayward fault earthquake is magnitude 6.7.

b. There were many examples in the recent Napa/Santa Rosa fires of failure of wireless communication caused by the burning of microwave antennas.

5. **Operations and Maintenance: FCC compliance** (see Sec. 17.46.070B3). The applicant must pay the City's costs to verify no less than semi-annually that the proposed antennas and supporting equipment satisfy prevailing FCC RF exposure limits..